

CALIFORNIA WASTE MANAGEMENT BOARDNINTH STREET, SUITE 300
SACRAMENTO, CA 95814

Meeting of the
CALIFORNIA WASTE MANAGEMENT BOARD
State Office Building
1350 Front Street, Room B-109
San Diego, CA

April 21-22, 1987

NOTICE AND AGENDA

Note: The Board will convene at 10:00 a.m., April 21, 1987. This agenda represents the order in which items are scheduled to be considered. Since the Chairman, however, may change this order, participants and other interested parties are advised to be available during the entire meeting. Items not considered on April 21, may be continued until April 22, beginning at 9:00 a.m.

If written comments are to be submitted to the Board, 15 copies should be provided.

		<u>MINUTES</u>
1.	CONSIDERATION OF CONTRACT FUNDS ALLOCATED FOR PUBLIC AWARENESS PROGRAM	15
✓ 2.	CONSIDERATION OF THE DETERMINATION OF CONFORMANCE AND CONCURRENCE WITH THE <u>REVISED</u> SOLID WASTE FACILITIES <u>PERMIT</u> FOR THE CHIQUITA CANYON LANDFILL, LOS ANGELES COUNTY	15
3.	REPORT ON THE STATUS OF COMPLIANCE OF SANTA CLARA/COASTAL LANDFILL, VENTURA COUNTY	15
4.	SEMI-ANNUAL REPORT AND CONSIDERATION OF REVISING THE SCOPE OF WORK FOR THE CONTRACT WITH SRI FOR THE CHARACTERIZATION OF HOUSEHOLD HAZARDOUS WASTES AND RECYCLABLES IN THE MUNICIPAL WASTE STREAM	20
5.	CONSIDERATION OF INVITATION FOR BIDS (IFB) FOR CONSULTING SERVICES TO CONDUCT A RECYCLING STUDY	15
6.	CONSIDERATION OF THE AWARD OF A LOCAL ENFORCEMENT TRAINING CONTRACT	15
7.	CONSIDERATION OF APPROVAL OF FINAL REPORT OF THE ADVISORY COMMITTEE ON SIGNIFICANT CHANGE.	20

8.	CONSIDERATION OF THE APPROVAL OF THE REPORT TO THE LEGISLATURE, "WASTE-TO-ENERGY UPDATE 1987"	20
9.	PRESENTATION ON WATER RESOURCES CONTROL BOARD'S SHREDDER . WASTE POLICY	20
10.	REVIEW OF DEPARTMENT OF CONSERVATION REGULATIONS FOR THE IMPLEMENTATION OF ASSEMBLY BILL 2020	10
11.	PRESENTATION OF DRAFT REGULATIONS ON FINANCIAL ASSURANCES DURING OPERATION (AB 3527, 1984)	20
12.	DISCUSSION OF A SCOPE OF WORK FOR DEVELOPING REGULATIONS FOR WASTE-TO-ENERGY RESOURCE RECOVERY FACILITIES	20
13.	DISCUSSION OF A SCOPE OF WORK FOR DEVELOPING NEW REGULATIONS FOR CLOSURE AND POST-CLOSURE OF DISPOSAL SITES	20
14.	STATUS OF DELINQUENT COUNTY SOLID WASTE MANAGEMENT PLANS	10
15.	CONSIDERATION OF THE SAN DIEGO COUNTY SOLID WASTE MANAGEMENT PLAN REVISION	90
16.	UPDATE AND CONSIDERATION OF LEGISLATION	60
17.	DISCUSSION OF CONCEPTS FOR GUIDELINES FOR ENFORCEMENT OF SOLID WASTE FACILITIES STANDARDS	20
18.	UPDATE ON COORDINATED STATEWIDE LITTER CONTROL PROGRAM	15
19.	REPORT ON THE SIXTH ANNUAL WASTE-TO-ENERGY CONFERENCE SPONSORED BY THE UNITED STATES CONFERENCE OF MAYORS AND THE NATIONAL RESOURCE RECOVERY ASSOCIATION	15
20.	REPORT ON SIGNIFICANT STAFF ACTIVITIES	10
21.	REVIEW OF FUTURE BOARD AGENDA ITEMS	5
22.	OPEN DISCUSSION	
23.	ADJOURNMENT	

Note: The Board may hold a closed session to discuss personnel, as authorized by State Agency Open Meeting Act, Government Code section 11126(a), and litigation, pursuant to the attorney-client privilege, Evidence Code section 950-962, and Government Code section 11126(q).

For further information contact:
 CALIFORNIA WASTE MANAGEMENT BOARD
 1020 Ninth Street, Suite 300
 Sacramento, CA 95814
 (916) 322-3330

CALIFORNIA WASTE MANAGEMENT BOARD

Agenda Item # 1

April 21-22, 1987

Item:

Consideration of Contract Funds Allocated for Public Awareness Program

Issues:

- The Board's staff and press/media consultants have developed a new theme and approach to the Board's public awareness program.
- The program relies on a unifying theme and variety of messages to build a broad public understanding of the Board's efforts and responsibilities, and would employ a number of free media opportunities to convey these messages.
- Staff recommends the use of the \$50,000 contract budget for the development of a logo/jingle and the production of new radio and television public service announcements.

Background:

The Board's staff has reviewed the Board's public awareness program at length with both Ray McNally and Associates (RMA) and American Consultants International (ACI), the Board's Northern and Southern California press/media consultants. Staff and the consultants agree that the Board needs to devise a new, unifying theme and strategy for its public awareness program. A proposed concept for a new public relations campaign, including the campaign's goal, strategies and phase one implementation plan is attached for the Board's consideration.

A fundamental element of the proposed program is the creation of a series of new television and radio public service announcements (PSAs). The last PSA produced and distributed by the Board was "The Detective", a spot about oil recycling, in 1984. Since PSA production is the one element of the new campaign that cannot be managed within the scope and budget of the Board's existing

contracts with RMA and ACI, the Board's staff believes that the \$50,000 allocated from the Board's fiscal 1986-87 budget should be committed to produce new PSAs.

Specifically, staff recommends that the funds be used to develop a new "logo" (including both a visual image and audio jingle) to serve as the unifying theme for the campaign, and the production of three television and three radio PSAs. Camera-ready art developed for the PSAs will then be available for reuse in other parts of the campaign. To produce the PSAs, the Board's staff recommends the pursuit of a sole-source justified augmentation to the existing contract (CWM-0513) with Ray McNally and Associates.

Ray McNally, President of Ray McNally and Associates will be present at the Board meeting to provide the Board with an overview of the proposed public awareness campaign concept and specific PSA ideas.

Recommendation:

It is recommended that the Board approve the proposed public awareness program theme and strategy, and authorize the Chief Executive Officer to execute an amendment to contract number CWM-0513 with Ray McNally and Associates in the amount of \$50,000 for the production of new public service announcements for the campaign.

Attachments:

1. California Cleanin' concept paper

CALIFORNIA CLEANIN' CAMPAIGN

GOAL: To Clean Up California

STRATEGIES:

1. Create a unifying theme capable of carrying all CWMB public awareness campaign messages (litter reduction, recycling, household hazardous waste, improved siting, enforcement, advanced technologies).

The theme should be up-beat with broad public appeal. It will become the "slogan" for a variety of public awareness messages in different mediums, providing consistency and evoking recollection of previous messages. We might combine a visual logo with a theme song or jingle. With repetition, people will start thinking, "Oh yeah, those are the people who want us to stop littering," even though our message at the particular time might be about recycling.

For example, the theme California Cleanin' could be combined with the music of the Mamas and the Papas' "California Dreamin'" set to new lyrics which convey our broad message. The theme is positive, contemporary and generic enough to be appropriate for any number of waste-related messages.

2. Design a multi-faceted program which utilizes available press and free media opportunities.

A combination of one or several of the following approaches could be used for different messages: Television and radio PSAs, editorial support, television and radio talk shows, op-ed articles, outdoor advertising and other forms of "free" advertising which would depend on their suitability for a particular message and the future availability of funds. The use of any medium should depend on its suitability to the particular message being delivered.

3. Build a private industry coalition to help fund and promote the campaign.

The Board could draw upon the resources of those organizations or individuals with an interest in a particular message, avoiding the pitfalls of going to the same ones for support every time. Potential coalition members include (but would not be limited to):

- California Refuse Removal Council
- Individual waste management firms
- RecyCAL
- California Glass Recycling Corporation
- Keep America Beautiful
- Plastics industry
- Soft drink bottlers
- Beer and wine wholesalers
- Glass industry
- Box board industry
- Newspaper Publishers Association
- Press and media
- Fast food industry
- Etc.

CAMPAIGN PLAN:

1. Radio/Television/Newspaper PSAs

A series of new PSAs (3 television/3 radio) would be produced and distributed to radio and television stations statewide. The spots would be phased in, each building on the message of the previous one. In addition, print advertisements would be prepared and sent to newspapers statewide. Efforts could be made to locate corporate sponsors from the coalition to underwrite (or at least share in) the cost of ad placement, unless newspapers could be convinced to run the ads whenever space permitted. Camera-ready art developed for print ads could also be used for other purposes (T-shirts, billboards, bumperstrips, etc.).

2. Kick-off News Conference

To be held at the State Capitol in Sacramento, and possibly Los Angeles, San Francisco and San Diego. Purpose is to announce the statewide campaign and demonstrate its broad-based support. The news conference could also serve as the forum to unveil the new PSAs. Attendance by the Governor and other top administration officials and/or statewide and local celebrities would greatly enhance media exposure.

3. Editorial Board Tour

The Board Chairman and members would be scheduled to meet with the editorial boards of major daily newspapers. The purpose is to ask for editorial support for the campaign. Recommended papers include:

Bakersfield Californian	San Diego Union
Chico Enterprise-Record	San Diego Tribune
Contra Costa Times	San Francisco Chronicle
Hayward Daily Review	San Francisco Examiner
Long Beach Press-Telegram	San Gabriel Valley
Los Angeles Herald Examiner	Daily Tribune
Los Angeles Times	San Jose Mercury News
Monterey Peninsula Herald	Santa Ana Register
Oakland Tribune	Santa Barbara News-Press
Orange Coast Daily Pilot	Santa Rosa Press Democrat
Sacramento Bee	Stockton Record
Sacramento Union	Torrance Daily Breeze
San Bernardino Sun	Ventura Star Free Press

4. Editorial Board Mailing

A mailing to all weekly newspapers and dailies not scheduled for an editorial board meeting would be sent about the issue and the Board's efforts to solve it. A cover letter to the package from the Board Chairman or the Governor would ask for editorial support. The package would also be sent to special interest publications asking for editorial or feature article support.

5. Op-ed Articles

Feature articles about the problem and the Board's aggressive new campaign to solve it would be written and placed whenever possible in newspapers and special interest publications statewide.

6. Miscellaneous

Depending on the message, there are other activities which would depend heavily on corporate sponsorship: Billboard posting, bill inserts, bumperstrips, litterbag distribution, community events, school activities, etc.

CALIFORNIA WASTE MANAGEMENT BOARD

Agenda Item #2

April 21 - 22, 1987

Permit allows 24 hr. operation only 15 hrs during night cover required every 24 hrs.

*Bob McCafferty
Regional Mgr
Cauland Waste Systems*

Item:

Consideration of the Determination of Conformance and Concurrence with the Revised Solid Waste Facilities Permit for the Chiquita Canyon Landfill, Los Angeles County.

Key Issues:

- o Revision of Facilities Permit to increase the permitted daily capacity from 1,600 tons per day to 5,000 tons per day
- o Full permitting process expected to take one year, daily throughput increase sought in the interim

Facility Facts:

Name:	Chiquita Canyon Landfill Facility #19-AA-0052.
Project:	Revision of Facilities Permit
Location:	Valencia, Los Angeles County
Operator:	GSX Regional Landfill Company
New Permitted Tonnage:	5,000 tons per day
Current Permitted Tonnage:	1,600 tons per day
Remaining Capacity:	5,300,000 tons
Total Acreage:	1,074 acres
Area Utilized for Disposal:	83.6 acres
Estimated Closure Date:	1991

Background:

The Chiquita Canyon Landfill, located in the Chiquita Canyon area on the northwest section of Los Angeles County, was first permitted in 1978 as a Class II, 1,074 acre facility receiving 500 tons of waste per day. Forty-four acres of the 1,074 acres were being used for waste disposal.

In 1984, the facilities permit was revised to expand the 44 acres to 83.6 acres. The remaining capacity for disposal was 5,130,200 cubic yards with a life expectancy estimated at approximately six years and two months.

In 1986, the permit was revised to reflect a change in the owner. This was not considered a significant change; therefore, this revision was accomplished by the concurrence of the Board's Chief Executive Officer.

The existing permit is now being revised to allow an increase in waste quantity from 1,600 tons per day to 5,000 tons per day, 365 days per year. Plans to expand the area and elevation of filling are being prepared and will be submitted to the regulatory agencies for review in 1987. The full permitting process for the expansion is expected to take a year. Increase in the daily throughput limits is being sought in the interim. On days of continuous operation, the cell will remain open until the final receipt of refuse; at that time, the six-inch daily cover will be applied. A new cell will be created at the start of the next working day.

Whenever refuse is received at night, a gate keeper will be on duty to process the trucks at the gate. Heavy equipment operators will also be present to compact and cover incoming wastes. Portable lighting will be used. Night operations will be scheduled for commercial haulers only, and is limited to 15 trucks per day in accordance with the conditional use permit.

Records of inspections performed by the Local Enforcement Agency show that the facility is consistently in compliance with the state minimum standards.

Board Action:

Because an increase in daily tonnage is being proposed and the Board must review this permit proposal from the standpoint of conformance with the Los Angeles County Solid Waste Management Plan, the Board must either object to, or concur with, the proposed Solid Waste Facilities Permit as submitted by the Local Enforcement Agency within 40 days from the date the permit is received at the California Waste Management Board. The proposed permit for the facility was received at the Board on April 3,

1987. Pursuant to Government Code Section 66796.32(e), the Board has until May 13, 1987 to either concur in, or object to, the issuance of this permit. For this reason, the permit is scheduled for consideration at today's meeting.

California Environmental Quality Act (CEQA):

CEQA requires that the environmental impacts of any project be considered by any public agency which has discretionary authority over that project. Both Board actions on this project, the Determination of Conformance and Concurrence in the Solid Waste Facilities Permit, are discretionary acts under CEQA. Therefore, the Board must review the potential environmental impacts of the two actions which are under consideration.

The County of Los Angeles Department of Health Services, as required by CEQA, conducted an Initial Study that assessed all potential environmental impacts for this project. In that study, the impacts that were indicated as having potential environmental concern, included noise, air quality, traffic and access. Those potential concerns were carefully reviewed and found by the County not to exceed established threshold criteria for each impact. Finding no significant environmental impacts caused by the project, the County prepared a Negative Declaration. The Negative Declaration was certified by the County and a Notice of Determination was filed with the State Clearinghouse, on March 31, 1987 (see Attachment 1).

Staff has reviewed the Initial Study, which assessed potential environmental impacts, and the Negative Declaration. After a careful review of both documents, staff has determined that the project will not have a significant impact on the environment and that a Negative Declaration is appropriate for the project. Therefore, the Negative Declaration is adequate and appropriate for the Board's consideration of this project.

Requirements for a Determination of Conformance:

Government Code Section 66784 requires that the Board make a Determination of Conformance prior to the establishment of any new or expanded Solid Waste Facility. In accordance with the Revised Procedures for Obtaining a Finding of Conformance with the Los Angeles County Solid Waste Management Plan (CoSWMP), the proponent filed a Notice of Intent with the Los Angeles County Solid Waste Management Committee to increase the waste quantities received at the Chiquita Canyon Landfill. On January 22, 1987, the Los Angeles County Solid Waste Management Committee issued a conditional Finding of Conformance with the Los Angeles CoSWMP. The Finding became effective when the Negative Declaration was certified for this project. In accordance with the CoSWMP Procedures, the local Finding of Conformance was sent to this Board for concurrence or nonconcurrence. The Finding had the following limitations:

1. Daily tonnage at the landfill was not to exceed 5,000 tons per day.
2. The Finding would expire on November 24, 1997.

Staff finds that all previous local actions have been completed and it is appropriate for the Board to consider the requested Determination of Conformance for the subject facility. This consideration is based on the following four criteria:

1. **Consistent with State Policy**

The project is consistent with Board Policy of providing an environmentally safe and efficient method of waste disposal.

2. **Consistent with the Policies and Objectives of the County Solid Waste Management Plan (CoSWMP)**

The project is consistent with the Los Angeles CoSWMP policy of the joint provision of solid waste disposal services by the public and private sectors.

It is also consistent with the Los Angeles CoSWMP objective of providing adequate, sanitary, safe, convenient, and cost effective solid waste management practices.

3. **Consistent with the Short, Medium, and Long-Term Facilities Element of the County Solid Waste Management Plan**

In Chapter 3 of the Los Angeles CoSWMP, the Chiquita Canyon Landfill is identified as a major landfill for the short, medium, and long term planning periods.

4. **Consistent with Local Planning Requirements**

The increase in waste received at this site did not require any local land use approvals.

Staff knows of no expressed opposition to this action.

Requirements for Concurrence with the Solid Waste Facilities Permit:

1. The operator has submitted an Application and amendment to the Report of Disposal Site Information to the Los Angeles County Local Enforcement Agency.
2. The proposed Solid Waste Facilities Permit Revision is consistent with the Los Angeles CoSWMP.

3. The proposed Solid Waste Facilities Permit Revision is consistent with the State Minimum Standards for Solid Waste Handling and Disposal.

Staff have reviewed the proposed Solid Waste Facilities Permit and supporting documentation and concur with the Permit's format and content.

Board Options:

1. Take No Action

By taking no action, the Board would relinquish its authority and no useful purpose would be served. If the Board does not act on a permit within 40 days of receipt, the permit is deemed to have been concurred in.

2. Deny Conformance and Object to Permit Revision

This action would be appropriate if the proponent has not met all the requirements for these two actions.

3. Find Conformance and Concur in Permit Revision

This would be appropriate if the proponent has met all state and local requirements for these two actions.

Recommendation:

Staff recommends Option 3 and that the Board adopt Determination of Conformance #87-5 finding the project in conformance with the Los Angeles County Solid Waste Management Plan, and Solid Waste Facilities Permit Decision #87-16 concurring in the revision of Solid Waste Facilities Permit #19-AA-052.

Attachments:

1. Notice of Determination
2. Proposed Facilities Permit #19-AA-052
3. Facilities Permit Decision #87-16 and Determination of Conformance #87-5

NOTICE OF DETERMINATION

Lead Agency
County of Los Angeles
Department of Health Services
2615 South Grand Avenue, Room 450
Los Angeles, California 90007

Date: March 31, 1987

Project Title and Number State Solid Waste Facility Permit Modi-
1987-01

Location of Project 29201 Henry Mayo Drive (State Highway No.126),
Valencia, California 91355

Description of Project Review and Modification of State Solid
Waste Facility Permit (Permit No. 19-AA-052)

State Clearinghouse Number (if applicable) 87022508

The project was approved by Charles W. Coffee, Program Director
on Friday, March 27, 1987

- ☒ The project in its approved form will not have a significant effect on the environment.
- ☒ No Environmental Impact Report was prepared pursuant to the provisions of CEQA. A Negative Declaration is on file with the lead agency.
- ☐ The project will have a significant effect on the environment.
- ☐ An Environmental Impact Report was prepared for this project pursuant to CEQA, and is on file with the lead agency.
- ☐ A Statement of Overriding Considerations was adopted for this project.

Please forward one copy to:

☒ County Clerk
Corporations Division
111 North Hill Street
Los Angeles, California 90012

☐ Governor's Office
Planning and Research
1400 Tenth Street
Sacramento, Ca. 95814

By Charles W. Coffee
(Contact Person)
Solid Waste Management
Program

PROPOSED

ATTACHMENT 2

OPERATING PERMIT FOR FACILITIES
RECEIVING SOLID WASTE

TYPE OF FACILITY	FACILITY/PERMIT NUMBER
LANDFILL	19-AA-052
NAME AND STREET ADDRESS OF FACILITY	NAME AND MAILING ADDRESS OF OPERATOR
Chiquita Canyon Sanitary Landfill 29201 Henry Mayo Drive Val Verde Area Castaic, California 91310	GSX Regional Landfill, Inc. 1875 South Grant Street Suite 1000 San Mateo, California 94402
PERMITTING ENFORCEMENT AGENCY	CITY/COUNTY
County of Los Angeles Department of Health Services	Los Angeles County

PERMIT

This permit is granted solely to the operator named above, and is not transferrable.

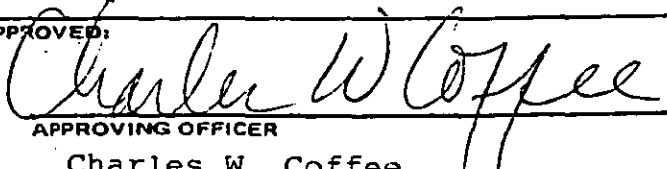
Upon a change of operator, this permit is subject to revocation.

Upon a significant change in design or operation from that described by the Plan of Operation or the Report of Station or Disposal Site Information, this permit is subject to revocation, suspension, or modification.

This permit does not authorize the operation of any facility contrary to the State Minimum Standards for Solid Waste Handling and Disposal.

This permit cannot be considered as permission to violate existing laws, ordinances, regulations, or statutes of other government agencies.

The attached permit findings, conditions, prohibitions, and requirements are by this reference incorporated herein and made a part of this permit.

APPROVED:  APPROVING OFFICER Charles W. Coffee, Program Director NAME/TITLE	AGENCY ADDRESS County of Los Angeles Department of Health Services 2615 South Grand Ave., Room 450 Los Angeles, California 90007
SEAL	AGENCY USE/COMMENTS
	PERMIT RECEIVED BY CWMB APR 02 1987
	PERMIT REVIEW DUE DATE PERMIT ISSUED DATE 26

SOLID WASTE FACILITIES PERMIT

SSWMB E-2-77 (REV. 10/77)

PROPOSED

1

7

ENFORCEMENT AGENCY

LOS ANGELES COUNTY DEPARTMENT
OF HEALTH SERVICES

COUNTY

LOS ANGELES

SOLID WASTE FACILITY PERMIT NO.

19-AA-052

FACILITY NAME

CHIOUITA CANYON SANITARY LANDFILL

OPERATOR

GSX REGIONAL LANDFILL, INC.

FACILITY LOCATION

29201 HENRY MAYO DRIVE, VAL VERDE AREA

DATE

PROPOSED
APR 01 1987

SSWMB APPROVAL

ENFORCEMENT AGENCY
APPROVAL

CASTAIC, CALIFORNIA 91310

FINDINGS

I. FINDINGS:

- A. This Solid Waste Facility Permit is for an existing Class II sanitary landfill which was in operation prior to August 15, 1977. This permit revision is for an increase in the quantity of waste being discharged.
- The total size of the site is 1,074 acres of which 84 acres are currently being utilized as the existing landfill area, which is receiving approximately 1600 tons of solid waste per day. The 84 acre site's four(4) canyons, A,B,C and D - would receive approximately 5000 tons per day (TPD) on a 365 day basis with a remaining permitted total site capacity of 5.3 million tons and a life expectancy of 4.6 years. The finished grade, including three(3) feet of final cover of clean earth, shall not exceed the maximum elevation of 1,220 feet above mean sea level. The operator will continue to utilize the cut and cover (Canyon-fill) method of operation to dispose of solid wastes. This site will be open to the public from 4:00 a.m. to 7:00 p.m. on weekdays, 6:00 a.m. to 5:00 p.m. on Saturdays, and 7:00 a.m. to 4:00 p.m. on Sundays. Late evening and/or night operation may take place by arrangement under specified conditions.
- Only Groups 2 and 3 wastes will be received at the facility which include the following:

1. Industrial (27%)
2. Commercial (31%)
3. Residential (42%)

Liquid waste hazardous waste, infectious waste, dead animals, septic tank pumpings or sewage sludge are not accepted.

(for a complete list of "acceptable" wastes refer to CRWQCB-L.A. Region, Waste Discharge Requirements, Order No. 84-4, File No. 67-20).

This permit is granted solely to the operator named above, and is not transferable. Upon a change of operator, this permit is subject to revocation. Upon a significant change in design or operation from that described in this permit or in attachments thereto for the existing design and operation of a facility operating immediately prior to August 15, 1977, or from the approved intended design and operation of a facility which was not operating prior to August 15, 1977, or which herein is granted a permit modification, this permit is subject to revocation, suspension, modification or other appropriate action.

This permit does not authorize the operation of any facility contrary to the State Minimum Standards for Solid Waste Handling and Disposal. This permit cannot be considered as permission to violate existing laws, ordinances, regulations, or statutes of other government agencies.

ENFORCEMENT AGENCY

LOS ANGELES COUNTY DEPARTMENT OF HEALTH SERVICES

BY (SIGNATURE)

TYPED NAME

TITLE

CHARLES W. COFFEE, DIRECTOR

DATE

APR 01 1987 27

I. FINDINGS: (continued)

- B. The subject property is zoned A-2-5 and A-2-2 which is properly zoned for landfilling use. The area surrounding the landfill site(s) for a distance of a 2,000 feet radius is predominantly vacant with the exception of a recreational vehicle park, a private recreational park and scattered single family residences in the residential community of Val Verde. The landfill site(s) are so removed from other developments as to impose virtually no risk to the public health, safety and welfare. The site is compatible with the surrounding areas. (RE C.U.P. 1809-(5), Findings, Items A,B and 5 and 6).
- C. Design and operation of this facility are as specified by the Report of Disposal Site Information dated June 8, 1984, and is hereby made a part of the "Findings".
- D. The operator proposes to make significant changes in the capacity of this facility thru expansion later this year.
- E. This facility's design and operation were in substantial compliance with the State Minimum Standards for Solid Waste Handling and Disposal as determined by a physical inspection on January 13, 1987.
- F. This permit is consistent with the Los Angeles County Solid Waste Management Plan as determined by the Finding of Conformance approved January 22, 1987 by the Los Angeles County Solid Waste Management Committee.
- G. The following documents and/or permits condition the design and operation of the facility:
 - 1. California Regional Water Quality Control Board - Los Angeles Region, Waste Discharge Requirements, Board Order No. 84-8, File No. 67-20, adopted on March 23, 1987.
 - 2. Conditional Use Permit (C.U.P.) Case No. 1809-(5), Los Angeles County Regional Planning Commission, approved November 24, 1982.
 - 3. California Waste Management Board Grant No. 50-316 - 40066, Recycling Grant.
 - 4. Negative Declaration, by County of Los Angeles Department of Health Services. State clearing house Number 87022508, March 1987.
- H. This permit complies with Government Code, Section 66784 in that this site is found to be consistent with the General Plan of the Los Angeles County as per letter dated January 23, 1984 by the Los Angeles County Department of Regional Planning referring to C.U.P. Case NO. 1809-15), Item 8.

I. FINDINGS: (continued)

- I. Compliance with the flammable provisions of the Government Code, Section 66784.3, a 150-foot firebreak (L.A. County Fire Department Regulation # 11-60 feet) will be maintained around the active working-face of the landfill. All material capable of supporting combustion will be removed from the firebreak area. (Re: Report of Disposal Site Information, Page 9).

Los Angeles County Fire Department, Engine Company 76, 27223 Henry Mayo Drive, Val Verde Area, Castaic, at the junction of Highways 126 and 5 is on call for any potential major outbreak of fire.

- J. The Chiquita Canyon Landfill has instituted a resource recovery program utilizing equipment purchased under California Waste Management Board Grant No. 50-316-40066. This program will continue when landfill operations shift to the expansion areas. (Re: R. of D.S.I., Pages 36 and 37 and "Appendix" I).

II. CONDITIONS:A. Requirements:

1. This facility must comply with all the State Minimum Standards for Solid Waste Handling and Disposal.
2. This facility must comply with all federal, state, and local requirements and enactments.
3. Additional information concerning the design and operation of this facility must be furnished upon request of the Enforcement Agency.
4. This permit is subject to review by the Enforcement Agency, and may be suspended, revoked, or modified at any time for sufficient cause.
5. The operator shall maintain a copy of this "Permit" at the site so as to be available at all times to site personnel and to the Enforcement Agencies' personnel.

B. Prohibitions:

1. No liquids, oils, waxes, tars, soaps, solvents, or readily water-soluble solids such as salts, borax, lye, caustic, or acids shall be deposited at this site.
2. No materials which are of a toxic nature, such as insecticides, poisons, or radioactive materials, shall be deposited at this site.

II. CONDITIONS:B. Prohibitions: (continued)

3. No sewage sludge or residuals such as solids from screens and grit chambers with moisture content higher than 50 percent, shall be disposed of at this site.
4. No Group 1 wastes shall be disposed of at this site.
5. The discharge of wastes to surface drainage courses or to usable groundwater is prohibited.
6. No septic tank pumpage or chemical toilet wastes shall be disposed of at this site.
7. No infectious materials and hospital or laboratory wastes, that are unauthorized for disposal to land by official agencies charged with control of plant, animal, and human disease, shall be disposed of at this site.
8. No empty pesticide containers shall be disposed of at this site unless they have been triple-rinsed.
9. No water shall be used at this site except for landscape irrigation, road surface dust control, and fire fighting. Washing of landfill equipment shall be confined to areas with sufficient refuse lifts where the wastewater could be completely absorbed by refuse. No commercial vehicle washing shall be conducted at the site. Water used for irrigation of disposal areas shall be applied only on completed lifts, in quantities not to exceed those necessary to support plant life, and shall be confined to the irrigated areas. Water shall not be permitted to pond at the site.
10. No scavenging shall take place at site.
11. No open burning shall be conducted at this site.
12. Public use of the landfill is prohibited during night time hours. (RE; C.U.P. 1809 -(5))

(Items # 1 through # 9, RE: CRWQCB - L.A. Region, Order No. 84-8, Waste Discharge Requirements File No. 67-20).

C. Specifications:

1. No significant change in design or operation from that described in Item A through I of the Findings Section of this permit is allowed.

II. CONDITIONS:

C. Specifications: (continued)

2. The operator shall notify the Enforcement Agency of any proposed changes in the routine facility operation or changes in facility design during the planning stages. In no case shall the operator undertake any changes unless the operator first submits to the Enforcement Agency to determine the significance of the change.
3. This facility has a permitted capacity of 5,000 tons per operating day and shall not receive more than 5,000 tons per operating day without first obtaining a modification of this permit.

D. Provisions:

1. This permit is subject to review by the Enforcement Agency and, may be suspended, revoked or modified at any time for sufficient cause.
2. The enforcement Agency reserves the right to suspend waste receiving operations when deemed necessary due to any emergency, the creation of a potential health hazard or a public nuisance.
3. The operator will maintain adequate records regarding length and depth of cuts made in natural terrain where fill will be placed, together with the depth to the groundwater table.
4. The operator will maintain a log of special occurrences containing the following information: fires, earth-slides, unusual and sudden settlement, injury and property damage, accidents, explosions, discharge and disposition of hazardous or other wastes not permitted, flooding, and unusual occurrences.
5. The operator shall monitor for potential leachate generation. If leachate becomes a problem, the operator will collect, treat, and effectively dispose of the leachate in a manner approved by the Enforcement Agency and the California Regional Water Quality Control Board.
6. Plans and specifications for a perimeter methane gas migration control and monitoring system shall be submitted to the enforcement agency for review and approval by July 1, 1987. The system shall be implemented as soon as possible following approval.

PROPOSED

II. CONDITIONS:D. Provisions: (continued)

7. Except as provided herein, the disposal site may be open 24 hours a day, 7 days a week; public use of the disposal site is prohibited during night time hours.
8. Only commercial operators and public agencies may be allowed the use of the landfill site 24 hours a day. During nighttime hours, no more than 15 trucks shall be allowed to enter and depart from the premises.
9. That at least once in a 24 hour period, each daily cell, including the working face, shall be entirely covered by a minimum 6 inch layer of compacted cover material in conformance with the Solid Waste Facility Permit.
10. That during the hours of operation for all landfill dumping activities, an attendant or attendants shall be present at all times to supervise and inspect the loading and unloading of the waste material.
11. Daily inflow of total wastes received shall not exceed 5,000 tons per day. Maximum total inflow during the life of the project shall not exceed 5.3 million tons.
12. At no time shall the elevation of the filled area exceed 1,220 feet above mean sea level.
13. The operator shall continue to pursue implementation of waste to energy projects, dissemination of information on recycling and source separation, operation of recycle centers and other alternatives to landfills, consistent with the technical or economic feasibility of these programs and with the goal of maximizing the diversion of waste from landfills. A report on this subject shall be submitted to the enforcement agency with quarterly monitoring reports.
14. This Solid Waste Facility Permit will expire concurrently with the Conditional Use Permit Case No. 1809-(5).

(Item Nos. 7, 8, 9 and 10 RE: C.U.P. 1809-(5);
Conditions, Page 3, Item Nos. 21-24).

E. MONITORING PROGRAM:

Upon receipt of the approved Solid Waste Facility Permit, the operator shall submit monitoring reports to the Enforcement Agency at the frequencies indicated below:

II. CONDITIONS: (continued)E. MONITORING PROGRAM: (continued)

1. The first monitoring report is due 15 days after the end of the calendar quarter.
2. The following monitoring reports shall be submitted each quarter:
 - a. The quantities and types of wastes received each month.
 - b. The quantities and types of materials salvaged each month.
 - c. The quantities and types of hazardous wastes or infectious wastes found in waste loads each month and the disposition of these materials.
 - d. The number and types of vehicles using the facility per day and per week.
 - e. Results of the gas migration monitoring program.
 - f. Pursuit of waste-to-energy projects and dissemination of recycling information. (See Item 13, Section D, Provisions, Page 6).
3. The following item shall be submitted annually:
 - a. Topographical map showing all current fill elevations.
4. All complaints about the facility received by the operator shall be forwarded daily to the Enforcement Agency.

CALIFORNIA WASTE MANAGEMENT BOARD

Solid Waste Facility Determination of Conformance #87-5

Solid Waste Facilities Permit Decision #87-16

April 21 - 22, 1987

WHEREAS, the Local Enforcement Agency has submitted a revision to Solid Waste Facilities Permit No. 19-AA-052 to this Board for consideration of concurrence to its issuance; and

WHEREAS, the Board finds the proposed permit revision consistent with the Los Angeles County Solid Waste Management Plan, and the State Minimum Standards for Solid Waste Handling and Disposal; and

WHEREAS, the Board finds that the Los Angeles County Solid Waste Management Committee, through its revised procedures for incorporating Solid Waste Facilities, has found the increase in daily tonnage from 1,600 to 5,000 tons at the Chiquita Canyon Landfill in conformance with the Los Angeles County Solid Waste Management Plan; and

WHEREAS, the Board finds that the County of Los Angeles has certified a Negative Declaration for this project in compliance with the California Environmental Quality Act, and the Board concurs with the County Determination; and

WHEREAS, the Board finds that the County of Los Angeles found the project will not have a significant effect on the environment; and

WHEREAS, the Board finds that it has considered the issue of conformance for the increase in daily tonnage from the standpoint of local issues and planning, consistency with the Board's State Policy, consistency with the short, medium and long-term facilities element, and goals and objectives of the Los Angeles County Solid Waste Management Plan; and

NOW, THEREFORE, BE IT RESOLVED, that the California Waste Management Board finds the increase in permitted daily capacity from 1,600 to 5,000 tons per day at the Chiquita Canyon Landfill is in conformance with the Los Angeles County Solid Waste Management Plan; and

BE IT FURTHER RESOLVED, that the California Waste Management Board concurs in the issuance of Solid Waste Facilities Permit No. 19-AA-052.

CERTIFICATION

The undersigned Chief Executive Officer of the California Waste Management Board does hereby certify that the foregoing is a full, true and correct copy of a resolution duly and regularly adopted at a meeting of the California Waste Management Board held April 21-22, 1987.

Dated:

George T. Eowan
Chief Executive Officer

LG/jsm

CALIFORNIA WASTE MANAGEMENT BOARD

Agenda Item #3

April 21-22, 1987

Item:

Report on the status of Compliance of Santa Clara/Coastal Landfill, Ventura County.

Key issues:

- o Santa Clara/Coastal Landfill operators notified of Board's intent to list on State List of Non-Complying Facilities.
- o Operator was instructed to report to Board on the progress for compliance at each Board meeting.

Discussion:

As a follow-up to the Board's direction at the March 26-27 meeting, the operators of the Santa Clara/Coastal Landfill were notified of the Board's intent to list their facility on the State List of Non-Complying Facilities. The letter of notification, which is attached, specified the actions necessary to avoid listing.

This item is on the agenda because the Board requested the operator to report on its progress towards compliance at each Board meeting. The operator will make an oral presentation.

Recommendation:

None

CALIFORNIA WASTE MANAGEMENT BOARD

1020 NINTH STREET, SUITE 300
SACRAMENTO, CA 95814



APR - 3 1987

CERTIFIED MAIL

Mr. John Conaway, Solid Waste Manager
Ventura Regional Sanitation District
1001 Partridge Drive, Suite 150
Ventura, CA 93003

Subject: Formal 90-day notice to correct deficiencies at Santa Clara/Coastal Landfill 56-AA-0004

Dear Mr. Conaway:

At the meeting on March 26-27, 1987, the California Waste Management Board (Board) directed me to notify you of its intent to add Santa Clara/Coastal Landfill to the State List of Non-Complying Facilities unless the specified actions outlined below are taken within 90 days of the date of this letter. This directive was the result of an evaluation made following site inspections performed by staff under the Presley program. The inspections reported ongoing and/or repeated violations of Title 14 of the California Administrative Code.

SPECIFIED ACTIONS:17616 - Report of Disposal Site Information: Permits

In concurrence with the Local Enforcement Agency (LEA) and Board staff, establish a time schedule for completing closure plans and submitting finalized permit applications to reflect closure of both the Santa Clara and Coastal portions of the site.

17682 - Cover

Submit a workplan for complying with daily cover requirements. This plan should identify the extent and cause of the cover problem. The plan should also describe measures necessary to correct cover deficiencies including a time schedule, participants, and methods that will be used to implement the corrective actions.

17705 - Gas Control

1. Complete installation of the gas monitoring probes between the gas migration barrier and the Radisson Hotel and include these probes in the existing monitoring program. The monitoring system design, installation, and the monitoring program must be acceptable to the LEA and Board staff.
2. Initiate a monitoring program around the east, south, and west perimeters of the Coastal portion of the site. We understand that the monitoring system has been installed since the last inspection by Board staff. However, design and installation of the system must be reviewed to confirm its adequacy.
3. Maintain and monitor the ground tensiometers installed at the River Ridge Golf Course to control and monitor irrigation. Records of tensiometer monitoring data and amounts of water applied to the golf course shall be submitted to the LEA and Board staff on a monthly basis.
4. Continue to cooperate with the L.A. Regional Water Quality Control Board (RWQCB) and Ventura County Air Pollution Control District and take all steps as directed to solve problems attributed to landfill gas.

17704 - Leachate Control

1. Submit to Board staff the results of the tests conducted on surface drainage at the River Ridge Golf Course as directed on February 17, 1987, by the L.A. RWQCB.
2. Continue to cooperate with the L.A. RWQCB and take all steps as directed to mitigate identified surface or groundwater contamination problems.

17710 - Grading of Fill Surfaces

1. Grade and maintain all Coastal fill surfaces with slopes that will promote the lateral runoff of precipitation.
2. Construct temporary drainage structures as necessary to divert runoff from draining into the working area at Coastal.
3. Submit a workplan designed to correct subsidence and ponding problems at the golf course. The workplan should identify the cause and extent of grading deficiencies. It should also describe necessary corrective measures, methods for their implementation, a time schedule, and participants involved in completing the work.

17629 - Public Health Design Parameters

1. Implement all measures prescribed by the L.A. RWQCB and the LEA to correct any inadequacies identified with the levee along the northern perimeter of the Santa Clara portion of the site. If the L.A. RWQCB has determined that the levee is adequate, documentation verifying this fact shall be forwarded to Board staff. If the L.A. RWQCB determines corrective measures are necessary, all work must be completed in a time schedule approved by that Board.

In addition, the Board has directed your agency to report monthly on the progress being made towards achieving the corrective actions specified above.

The Board also directed staff to meet with the facility operators and LEA to insure that lack of interagency communications does not hinder the implementation of the above specified actions. In keeping with this directive, a meeting has been tentatively scheduled for Wednesday, April 8, 1987, at the River Ridge Golf Course Club House.

Failure to complete any of the above specified actions within 90 days of this notice will result in the Board placing your site on the State List of Non-Complying Facilities. It is noted that some actions may require more than 90 days to complete. In those instances, failure to meet an agreed upon compliance schedule will result in listing.

I believe this letter considers the actions you have already taken at the site as outlined in the March 26, 1987, letter to Mr. Sherman Roodzant from Mr. Wayne Bruce. If you have any questions regarding this action, please contact me at (916) 322-3330 or Robert Burrell of our Southern California Office at (714) 558-6412.

Sincerely,

Original signed by:
George T. Eowan

George T. Eowan
Chief Executive Officer

cc: Don Koepp
Ventura County Environmental Health

Timothy P. Nauson, P.E.
City of Oxnard Public Works Dept.

CALIFORNIA WASTE MANAGEMENT BOARD

1020 NINTH STREET, SUITE 300
SACRAMENTO, CA 95814



APR - 3 1987

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Sincerely,

Original signed by:
George T. Eowan

George T. Eowan
Chief Executive Officer

cc: Don Koepp
Ventura County Environmental Health

Timothy P. Nauson, P.E.
City of Oxnard Public Works Dept.

CALIFORNIA WASTE MANAGEMENT BOARD
AGENDA ITEM # 4
APRIL 21 - 22, 1987

ITEM:

Semi-annual report and consideration of revising the scope of work for the contract with SRI for the characterization of household hazardous wastes and recyclables in the municipal waste stream.

KEY ISSUES:

- o Results of pilot sampling
- o Change recyclable portion of study to determine impact of bottle bill legislation.
- o Change household hazardous waste portion of study to one location, and increase sampling frequency.

BACKGROUND:

The Board in June, 1986 awarded a \$150,000 contract to SRI, Inc. for a report "estimating the types and amounts of hazardous waste materials and recyclable materials in the household solid waste stream".

As part of the contract, SRI is required to prepare a written and oral semi-annual report for the Board which presents the results of the pilot sampling, as well as, discusses the implications of the results for the remainder of the study.

Dr. Bomberger of SRI will present the results of the pilot sampling conducted on October 10, 1986 and November 14, 1986 and will describe in detail proposed changes that SRI would like to have the Board make to the contract.

A general description of the contract changes that SRI has proposed include the following:

Recyclable Materials

1. Reduce and change the recyclable portion of the study to sort for glass, ferrous and non-ferrous metal content in the waste stream only. SRI has suggested a comparison of the amount of these materials associated with bottle bill containers versus non-bottle bill containers.
2. Conduct the study at a single site in Northern California as opposed to the contract which specifies that sampling will be conducted in both Northern and Southern California.

Hazardous Materials Sampling

1. Reduce sampling to a single site in Northern California in order to maximize the number of samples that can be processed and minimize the sample variance.
2. Limit the study to a spring/summer and winter season sampling scheme at the Northern California site to allow more replicate sampling of individual routes.
3. Increase the amount of self haul load sampling as pilot studies suggest that increased sampling is warranted.
4. Monitor the results of a County of San Mateo household hazardous waste collection day to assess what household hazardous waste is being routed out of the waste stream.

DISCUSSION:

The reasons for changes to the contract are tied to statistics and money. In order to complete the study for the money remaining in the contract and to insure statistical accuracy, the number of variables that the study considers must be reduced. Results from the pilot sampling indicate that hundreds of samples not budgeted for would need to be collected and analyzed in order to tie the sources of recyclable or household hazardous refuse with a particular community, household type, region and season.

In order to provide a statistically sound study and to spend the remaining contract money efficiently, SRI has proposed to minimize the recycling aspect of the study and to emphasize the household hazardous waste portion. The recycling portion, as proposed, will determine the impact of the bottle bill legislation. Staff agrees that a pre and post bottle bill study for glass, ferrous and non-ferrous materials would be useful. In addition to the previously mentioned materials staff would like SRI to sort for polyethylene terephthalate (PET) containers.

Based on the results of the pilot studies, SRI has proposed several changes for the household hazardous waste portion of the study. These changes include: reducing the sampling location to a single site in northern California, reducing the sampling to a spring/summer and winter season, increasing the amount of route and self-haul load sampling. Staff has no major conflict with these changes so long as SRI provides the Board with the following information prior to initiating the extended study:

1. A written sampling methodology that includes assumptions made for the collection of waste for route samples, as well as, self-haul load samples.
2. The number of samples to be collected and analyzed from route and self-haul loads.

3. The statistical basis for number 1 and 2 above as well as the statistical accuracy and precision expected.

RECOMMENDATION:

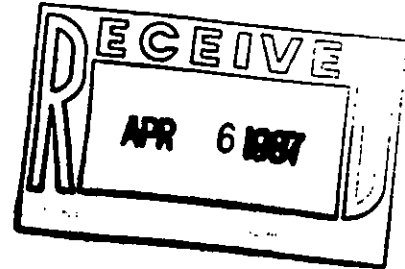
Staff recommends the following:

Approval of the SRI proposed changes to the scope of work. PLUS:

- The addition of PET containers to the revised recycling portion of the contract.
- A written methodology/statistical report for the household hazardous waste portion of the contract.



April 3, 1987



Ms. Sue O'Leary
Waste Management Specialist
CALIFORNIA WASTE MANAGEMENT BOARD
1020 Ninth Street, Suite 300
Sacramento, California 95814

Subject: Change in Contract Scope Solid Waste Characterization
Project Contract #CWM-0529, SRI Project No. 2530

Dear Ms. O'Leary:

SRI is requesting that the scope of the extended sampling study, Task II, be changed because a statistical analysis of refuse sampling and our preliminary sampling results indicate that the information desired cannot be developed with the current funding levels. A very large number of samples would have to be analyzed in order to distinguish sources of refuse with respect to factors such as community, household type, region, and season. The resources allocated for Task II are not sufficient if data for both recyclables and hazardous materials are collected, and they are not adequate if only data on hazardous materials are collected. SRI is recommending that hand sorting for recyclables during Task II be severely limited to maximize the information that can be collected on hazardous materials, and that the scope of all sampling be limited to a single site in northern California during two seasons to maximize the number of samples that can be analyzed.

For recyclables we are recommending that hand sorting be limited to glass, ferrous, and non-ferrous containers in order to determine the impact of "bottle bill" legislation. SRI proposes to hand sort six categories of containers:

Recyclable (deposit
collected at sale)

Glass
Ferrous
Non-ferrous

non-Recyclable

Glass
Ferrous
Non-ferrous

The weight of material in each category will be determined and we will report the total weights of glass, ferrous, and non-ferrous containers and the recyclable material weights as a percentage of the total sample weight. A set of samples will be taken before and after "bottle bill"

SRI International

333 Ravenswood Ave. • Menlo Park, CA 94025 • (415) 326-6200 • TWX: 910-373-2046 • Telex: 334486 • Facsimile: (415) 326-5512

legislation takes effect to see what impact the legislation had, compared to the maximum impact it could have on refuse composition.

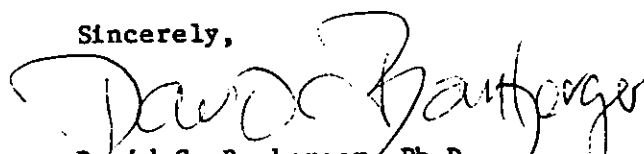
For hazardous materials, we are recommending that the choice of generic materials for continued study include; chlorinated hydrocarbons, non-chlorinated hydrocarbons (which would include fuel), other organics (which includes the major oxygenated solvents such as alcohols, ketones, and aldehydes), pesticides (which includes insecticide, herbicide, fungicide, etc.) pigments, adhesives and sealants, waste oil, and batteries. The other categories of material discussed in the original Request for Proposal and our responses to that request have been eliminated because they were judged to be non-hazardous at the concentrations found in refuse and too time consuming to enumerate. Based on product consumption and composition data, we are recommending that refuse be hand sorted for the the following products or product groups which are considered to be the major sources of hazardous materials:

Paint	Solvent
Adhesive	Sealant
Pesticides	Polishes
Preservatives	Batteries
Floor and furniture cleaners	
Automotive products (including waste oil)	


The logic behind choosing a single site is discussed in the first semi-annual report for the project. Travel and subsistence for the sampling team and transport of materials when two sites (north and south) are used consumes resources that could be better used for sampling, and the high sampling variance makes it unlikely that significant differences could be confirmed.

I request that a discussion of the above recommended scope of work be a part of the presentation to the California Waste Management Board at its April Meeting in San Diego. I further request that a decision be made at the meeting concerning the scope of work so that SRI can commence work on Task II early in May. SRI will be pleased to provide a formal proposal addressing any of the above mentioned changes to the current contractual scope of work. We realize that a decision on the scope needs to be made before the April meeting. Therefore, we will contact you early next week to discuss this proposed scope change.

Sincerely,


David C. Bomberger, Ph.D.
Senior Chemical Engineer
Chemical Engineering Laboratory

Approved:


Jerry L. Jones, Director
Chemical Engineering Laboratory

DCB:iav

WASTE CHARACTERIZATION STUDY:
ASSESSMENT OF RECYCLABLE AND
HAZARDOUS COMPONENTS

by: David C. Bomberger

Prepared for:

California Waste Management Board
1020 9th Street, suite 300
Sacramento, CA 95814

attn: Ms. Sue O'Leary

**DISCUSSION
DRAFT**

COPY HAS NOT YET
BEEN THROUGH
FINAL EDIT PROCESS



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SECTION 1

INTRODUCTION

BACKGROUND

The California Waste Management Board has the responsibility for regulating the disposal of non-hazardous solid wastes. This responsibility includes encouraging the recycling of usable materials in the solid waste stream. It also includes protecting the public health and the environment from improper disposal of solid wastes. One of the most significant solid waste streams is generated by households. This stream contains both household refuse and food wastes, and yard wastes that are mostly vegetation. Many components of the household generated solid waste can be recycled; paper can be reused as a fiber source, aluminum and ferrous materials can be reprocessed into containers or used in other industrial processes, and many glass containers can be recycled directly if they are kept out of the mixed waste stream, or recovered as raw materials for containers from the mixed waste stream. Food wastes and much of the yard wastes can be composted for use in gardens and land reclamation projects. An alternate recycling technology uses the bulk of the waste stream as an energy source.

The bulk of the solid wastes generated by households is disposed of by burial in landfills rather than being recycled. Current Federal and State regulations define classes of materials that are hazardous and will not allow large volumes of them to be placed in landfills designed to accept household solid waste (or most industrial and commercial wastes, either). There is a concern, however, that many common household items, such as cleaners, paints, polishes, etc. contain components such as organic solvents, acids, bases, and heavy metals that may be hazardous. Unused pesticides are a concern, as is unused motor oil which may be hidden in the solid waste stream by householders. If these materials are present in significant amounts, disposal by landfill may pose some problems for the public health and the environment.

Even the containment offered by a modern landfill can be expected to be breached in the long run by earth movement or liner failure. Containment failure may also be caused by the materials in the solid waste - hazardous materials that are reactive, corrosive, or far from neutral pH may attack the containment system. Organic solvents may increase the permeability of lining systems. When the containment failure occurs, some material may migrate to surface or groundwaters. The material migrating may not be the same as was originally placed in the landfill because biological degradation does occur that will destroy some of the organic material and transform much of the rest to materials such as organic acids. A serious concern, however, is that some hazardous material that is also toxic may not be degraded. When this occurs, containment failure could pose a severe hazard to human health or the environment.

PURPOSE

To help fulfill its responsibilities with respect to recycling and protecting the public health and the environment from hazards, the California Waste Management Board wishes to expand its database on the composition of wastes received at municipal solid waste facilities. The extended database will be a useful tool both in setting policies that encourage recycling and developing new regulations for solid waste disposal if they are necessary.

METHOD OF APPROACH

A program to characterize the household solid waste stream was designed with two phases - Task I, a pilot sampling study and Task II, an extended sampling study designed to collect a large amount of data. The pilot sampling study was designed to use a literature study and hand sorting data from two samples of refuse from the BFI transfer station at San Carlos, CA to develop the details of the extended sampling study. The objectives of Task I included:

- (1) Develop a list of hazardous materials to be studied. by reviewing previous studies, considering the toxicology of consumer products, and by making bounding estimates of the amount of material that could be in solid waste, based on household consumption patterns.
- (2) Develop the details of the techniques required to remove material from containers that were identified as posing a hazard. Develop a method to quantify the amount of hazardous material present in containers. Use the labor requirement for the sorting and quantification to set a scope for the extended sampling study.
- (3) Determine the variance that can be expected in measuring the amounts of hazardous or potentially hazardous material present in domestic solid wastes and use the variance estimates to develop a sampling strategy for hazardous material in the extended sampling study.
- (4) Develop a statistical methodology for dealing with sampling data.
- (5) Collect and analyze the existing literature data on domestic solid waste composition in California. This effort was required so that data on recyclable material collected by this study could be contrasted and compared to previous work. The literature study was planned for Task I in case it became clear that the effort of sampling of the hazardous or potentially hazardous material precluded a detailed study of recyclables in the extended sampling study. The completed literature study would then be the fall back data on recyclables.

- (6) Develop a plan for the extended sampling study in Task II. The plan was to include a methodology for determining the importance of socioeconomic factors such as region, season, and household wealth and home ownership patterns if it was practical and useful to include them in the study.

This Semiannual report to the California Waste Management Board contains the results of Task I.

SECTION 2

EXECUTIVE SUMMARY

RECYCLABLE COMPONENTS IN REFUSE

A literature study of recyclables that was conducted as part of Task I showed that most studies have focused on only a limited number of the components or material categories known to be in refuse: paper products (mixed paper, newsprint, and corrugated); plastic; and ferrous, non-ferrous, and glass materials. All other materials, which are mostly organic in nature (yard waste, wood, textiles, food wastes, leather and rubber, other organics), have been classed together as "other" to reflect the thought that they would probably only be recovered as energy by combustion. Refuse composition data found for California is sometimes more detailed than data from other parts of the country. All of the known and easily accessible data has not yet been assembled, but what has been reviewed shows that California refuse is not significantly different from the average refuse in the United States.

Two samples of refuse were hand sorted as part of the Task I effort. The average composition from the two samples is shown below in terms of 14 recyclable categories.

Category	Weight percent
Mixed paper	28.1
News print	11.3
Corrugated	5.0
total paper	44.4
Plastic	6.0
Yard waste	14.4
Wood	0.8
Food waste	11.0
Leather and Rubber	0.6
Other Combustibles	5.0
Ferrous	3.2
non-ferrous	1.4
Glass	9.5
Other non-combustibles	3.4
Salvageable	0.2

This composition is very similar to others reported in California and other parts of the country.

A review of the statistics of sampling refuse (Carruth and Klee, 1969) suggested that between 10 and 20 samples of refuse from a particular source would have to be sorted to obtain composition estimates for that source with 90 percent confidence bounds of plus or minus two percent (ie, paper = 50 - 54 % and glass = 6 - 10 %). This level of precision is required to differentiate sources of refuse. The study of how seasonal factors and socioeconomic factors (multiple family, single family, community wealth, and north vs south) effect the recyclables content of refuse in California cannot be conducted as requested by the California Waste Management Board because the required level of precision cannot be obtained with the resources available for the extended sampling study in Task II. 240 to 480 samples would be required to determine the importance of all of the factors, but the resources will allow less than 100.

HAZARDOUS MATERIAL IN REFUSE

There is a growing body of literature on the hazardous materials found in refuse. A review of this literature suggested that the most fruitful approach would be to focus only on materials that were toxic, had the potential of being persistent, and were present in significant amounts. A generic approach to reporting the composition of refuse that has eight generic hazardous material categories is being recommended. Non-chlorinated organics includes benzene, toluene, and the bulk of the aliphatic hydrocarbon solvents. Chlorinated organics includes dry cleaning solvents, drain cleaners, and some of the more complex chemical intermediates. Other organics includes alcohols, ketones, aldehydes, and non-chlorinated chemical intermediates. The other five categories being recommended are pesticides, which includes all insecticides, herbicides rodenticides etc, pigments, which is predominantly heavy metal oxides from paint colorants, adhesives (and sealants), which contain both hydrocarbons and other organics, waste oil, and batteries. The studies in the literature showed that the majority of the

hydrocarbons and pigments come into refuse by way of commercial/industrial wastes and self-haul loads, not by way of the normal residential pickup routes.

Adhesives and sealants may be eliminated as a separate category during Task II and reported as hydrocarbons and organics. Alkali, acid, and oxidants, which are important components of many consumer products, are not considered hazardous because they are not persistent and are present in refuse at extremely low levels (<50 ppm). They can also react and neutralize each other and other refuse components.

Based on product consumption and composition data, the following product groups are considered to be the major sources of hazardous materials.

Paint	Solvent
Adhesive	Sealant
Pesticides	Polishes
Preservatives	Batteries
Floor and furniture cleaners	
Automotive Products (including Waste oil)	

Generic recipes for most of these product groups have been developed in terms of the generic hazardous material categories. In some cases the generic recipes are the actual recipes of the most common product in the group, where as in other cases they are a synthesis of a number of products.

Quantitative estimates of the concentration of hazardous materials in refuse were generated from a number of sources. Detailed composition data from an analysis of a large refuse sample in King County, Washington, were transformed into the recommended generic hazardous material categories. Several preliminary samples collected during Task I were hand sorted to remove all containers of the recommended product groups and the results of weighing the residual contents expressed in terms of the generic hazardous material categories. Finally, a bounding estimate of refuse composition was generated from an estimate of consumer spending and consumption habits in California. The results of the three estimates are shown below.

Concentration of Hazardous
Material in Sample (ppm)

Hazardous Material Category	King County Sample	Average of Task I Samples	Bounding Estimate
Hydrocarbons chlorinated	163	142	0
non-chlorinated	180	24	28
Other Organics	223	9	33
Pesticides	3	1	2
Pigments	409	-	-
Adhesives	-	62	56
Waste Oil	-	-	645
Batteries	90	1057	400

The various estimates are not complete because of differences in methodology. In particular, the bounding estimates for hydrocarbons and pigments are low because paints and paint products could not be included because data on paint consumption could not be developed during Task I. Although there are differences in the estimates, the concentrations of hazardous materials are all low. The general agreement among the sample results and the bounding estimates suggests that refuse composition can be predicted from a study of consumer habits as well as by sampling.

A statistical analysis of the preliminary hazardous waste samples indicated that the sampling variance was very high. Standard deviations were as large as the means, chiefly because representatives of each hazardous material category were not found in all samples. The level of precision required to differentiate sources of refuse in terms of seasonal factors and socioeconomic factors (multiple family, single family, community wealth, and north vs south) may very well require standard deviations that are at most several percent of the mean. This level of precision could require 100 samplings or more of each condition

and cannot be obtained with the resources available to Task II, which allow less than a total of 100 samples to be analyzed.

RECOMMENDATIONS FOR TASK II

It is recommended that the recyclables study in the extended sampling of Task II be limited to identifying both the total glass, ferrous, and non-ferrous content in refuse, and the amount of these materials associated with recyclable beverage containers. This would allow a determination of the maximum impact that recycling beverage containers could have on the glass and metals content of refuse. The sampling would be timed to determine refuse composition before a new bottle bill takes effect in California and then after it takes effect in order to obtain an independent estimate of the effectiveness of the bottle bill and to determine the actual effect of beverage container recycling on refuse composition. This would involve a spring/summer season and a winter season. It is recommended that this study take place at a single site in Northern California (the BFI transfer station in San Mateo County) in order to maximize the number of samples that can be processed and minimize the sample variance.

It is recommended that the hazardous material study in the extended sampling of Task II be limited to a spring/summer and a winter season sampling campaign at the Northern California site. This strategy would allow us to use well trained and properly motivated personnel to take repeated samples (more than the two replicates that would be possible if two sampling sites were utilized) of several individual routes representing different socioeconomic conditions. This sampling strategy may allow us to characterize a route or a socioeconomic condition well enough to confirm any large differences in hazardous material levels.

On the other hand, if we used both a Northern and a Southern California site, the transport of personnel and hazardous material would limit the amount of sampling that we could conduct with our own personnel. This problem is made particularly acute by the fact that a particular residential route is collected only once a week, which makes

repeated sampling at a remote site very expensive. The more limited number of samples of any particular route or socioeconomic condition would probably make it impossible to confirm any differences in hazardous material concentrations. SRI also recommends that the balance of the sampling be shifted more towards self-haul loads where the bulk of the hazardous material from individual households actually shows up. BFI and the County of San Mateo conduct annual special collections of household hazardous materials. The choice of this site would allow us to measure the effectiveness of a collection program.

SECTION 3

RECYCLABLE COMPONENTS IN REFUSE

REVIEW OF NATIONAL DATA ON COMPOSITION OF REFUSE

The major focus of the literature search was California data on refuse composition. During the search a number of references to national data turned up. These are reported in Table 3.1. The data is incomplete, in that there is not data for some of the categories being reported in this study. The national studies focused on paper and containers as the major targets of recycling. In most cases the missing material categories were reported as "other". It is also probably true that the definitions of some of the categories are different than those used in the present study.

A more thorough search that had national data as its objective would clearly have yielded more data. A more thorough search was not considered to be useful, however, since the limited data that is reported serves the purpose of showing that California refuse composition is similar to national averages of composition.

REVIEW OF CALIFORNIA DATA ON COMPOSITION OF REFUSE

Statewide Data

There are a number of reports on composition of domestic refuse that were requested but which have not been received yet. The data is for the cities of Los Angeles and San Francisco, and Santa Clara County. Without this data, the results of the literature search are sparse. SRI recommends that the literature search task remain active during Task II so that more data can be added.

There are two sets of data shown in Table 3.2. The first set is for the southeastern urbanized portion of San Mateo County. This data is discussed in more detail in a separate section of this report. The second set of data is for the city of San Jose, which is a major urban

center to the south of San Mateo. Both are part of the greater Bay Area, and have similar demographics. Their refuse is very similar in composition. Even so, there are differences of 1 to 2 percent in many categories. These differences probably represent the variation due to sampling, rather than any fundamental difference in composition. The large value for yard waste in the San Jose sample is clearly not typical and has distorted the rest of the composition data.

Table 3.1: Composition of Domestic Refuse - National Data

Category	Weight Percent				
mixed paper	11.4				-
news print	17.2				-
corrugated	7.6				15.3
total paper	35.6	37.0	44.0	34.4	-
plastic	-	1.4	5	3.1	2.9
yard waste	-	-	-	-	-
wood	-	-	-	-	-
textiles	-	-	-	-	-
food wastes	-	-	-	-	-
leather & rubber	-	-	-	-	-
other organics	-	-	-	-	-
ferrous	11.3	7.6	6.5	5.4	5.7
non-ferrous	0.9	0.8	1.5	1.2	0.3
glass	13.7	9.0	8.0	7.8	-
other inorganic	-	-	-	-	-

Sources: U.S. EPA, 1982; General Electric Co., 1973; Ridgley and Galvin, 1982; Dean et al, 1972

Table 3.2: Composition of Domestic Refuse in California Communities

Category	Weight Percent
mixed paper	13.7
news print	12.3
corrugated	12.4
total paper	38.4
plastic	3.0
yard waste	30.3
wood	2.5
textiles	2.6
food wastes	5.8
leather & rubber	0.9
other organics	-
ferrous	5.0
non-ferrous	1.5
glass	8.5
other inorganics	1.2

Sources: Cal Recovery Systems, 1985; City of San Jose, 1972

San Mateo County Data

A 14-day field study was conducted by Cal Recovery Systems during April 1985 of residential, commercial and industrial waste generated in south eastern San Mateo County, CA. A total of 60 collection vehicles that arrived at the Browning Ferris Industries (BFI) transfer station in San Carlos, Ca were sampled: 20 rear loaders hauling primarily residential garbage; 20 front loaders with wastes mostly from commercial establishments and institutions (collectively, the front and rear loaders are referred to as packer trucks); and 20 samples from debris boxes and compactors from industrial customers. A representative sample from each truck was manually sorted into 14 categories

The average composition of the waste by truck type is shown in Table 3.3. In this tabulation, the contents of the rear loaders represent most closely household refuse. The large number of samples sorted means that the reported compositions probably reflect the true composition of the waste stream to within a percent or two. The large amount of wood and non-combustibles in the debris boxes reflect construction debris. The commercial loads are lower in newsprint and higher in corrugated relative to the household loads, as would be expected.

Table 3.3 Average Composition of San Mateo County Refuse by Truck Type

PILOT SAMPLING STUDY FOR RECYCLABLES

Two preliminary samples were sorted to determine the labor requirements for quantifying the amount of hazardous material found in domestic refuse. At the same time, some preliminary data on the recyclables content was collected.

Sampling Method and Labor Requirements

The first preliminary sample (Sample 1) was obtained from a packer truck following a predominantly residential route in Belmont, California. The refuse was sampled by segregating 2091 pounds from the truck load. 1307 pounds of this segregated sample was sorted exhaustively into the 14 waste categories chosen to characterize the recyclable portion of refuse. The categories used were slightly

different from the categories reported in the national and state data. Textiles were eliminated as a separate category and included in "other combustibles". A new category, salvageable, was designated for items that could be reused directly without processing other than clean up. This would include books, small household appliances, etc. Exhaustive sorting required approximately 4 hours of elapsed time utilizing 6 people. By the time the 1307 pounds had been processed, the sorting rate was slowing down because most of the large items had been removed from the sample. It became apparent that the entire sample could not be completely sorted in the remaining hours allotted. Sorting strategy was changed. The remainder of the sample, 784 pounds, was quartered 3 times, following the standard methodology, to yield a sub-sample of 96 pounds and a discard of 688 pounds. The small sub-sample was sorted into the 14 recyclable categories. This work required an additional 2 hours to complete.

The weights of material in each category were determined as is without drying. The combined weight of the sub-sample and the discard was assumed to have the composition of the sub-sample. These category weights were then added to those found in the 1307 pound sample that had been sorted exhaustively, and the composition of the entire sample estimated.

The second preliminary sample (Sample 2) was obtained from a packer truck following a completely residential route in San Carlos, Ca. The route contained both multi-family dwellings and single family homes. The refuse sample was taken from the rear portion of the truck since the single family neighborhood was collected last. San Carlos is the community immediately south of Belmont and is quite similar. A San Carlos route was chosen instead of duplicating a Belmont route because there were no pure residential routes available in Belmont on Fridays.

The refuse was sampled by segregating two 2 cubic yard portions in preweighed debris boxes. Box 1 contained 556 pounds of refuse, and Box 2 contained 600 pounds. The segregated portions were combined prior to determining the composition in terms of recyclables. The combined pile was quartered twice using a Bobcat, leaving a representative sample of

297 pounds. The representative sample was sorted exhaustively into the 14 categories of recyclables. The sorting required 4 people and a period of 2 hours. The weights of material in each category were determined as is without drying. No attempt was made to determine the volume of material in the 14 categories.

Composition of the Preliminary Samples

The results for the two samples are shown in Table 3.4. The preliminary sample compositions are similar to the compositions found in other studies. The largest discrepancies are for mixed paper and corrugated paper, where our sample yielded significantly less corrugated and more mixed paper. For the present, we assume that the differences are caused in part by a mix of residential and commercial waste in Sample 1. Close analysis of that sample indicated that some refuse from a Neighborhood Commercial district, containing an automobile service station, a sandwich shop, and a coin operated laundromat was included. Also apparent was mixed paper and cafeteria wastes that came from the College of Notre Dame. More care will have to be exercised in choosing routes to avoid this contamination.

Table 3.4: Composition Summary: Percentage of the Waste Stream, by Weight, Which is Recyclable

Spring/Summer Season			
Composition (weight percent)			
Category	Sample 1	Sample 2	Average
Mixed Paper	30.4	25.9	28.1
News Print	13.2	9.4	11.3
Corrugated	9.0	1.0	5.0
total paper	52.6	36.3	44.4
Plastic	6.5	5.5	6.0
Yard Waste	14.4	14.3	14.4
Wood	0.9	0.7	0.8
Food Waste	7.9	14.1	11.0
Rubber and Leather	0.8	0.3	0.6
Other Combustible	4.2	5.8	5.0
Ferrous	3.3	3.2	3.2
Aluminum and non-Ferrous	1.4	1.3	1.4
Glass	6.9	12.1	9.5
Other (non-combustible)	0.5	6.4	3.4
Salvageable	0.5	0.0	0.2
	100	100	100

Sampling Statistic

In an early EPA study on solid waste sampling, Carruth and Klee(1969) studied the number of samples and the sample size required to characterize solid waste composition accurately. An actual sampling study where sample weights in three ranges - 1500 lb, 800 lb, and 200 lb were sorted demonstrated that 200 lb samples were adequate. No significant increase in accuracy was obtained from heavier samples, but the work involved was significantly increased. Carruth and Klee used a theoretical analysis of the sample data to demonstrate that a large number of 200 lb samples would have to be sorted in order to adequately characterize a refuse source. For four 200-300 lb samples, they found, for example, that all paper products (mixed, news, and corrugated)

represented 61% by weight of the refuse on the average, and that glass represented 4.58%. The statistical analysis based on the standard deviations of the individual sample results suggested that to be 90 percent confident that the true composition of the refuse was within two percentage points of these averages (paper = 59% - 63% and glass = 2.58% - 6.58%) would require 20 samples for the paper and 10 to 12 samples for the glass. If only two samples were sorted, then the 90 percent confidence range for paper would be 53% - 69%, and the 90 percent confidence range for glass would be 0% - 9%.

Implications and Recommendations for Task II

The proposed sampling plan was to include sampling single family routes, multiple family routes, and self haul loads in two communities with different income levels in northern and southern California, during two seasons. This represents a total of 24 different conditions to characterize refuse composition by socioeconomic, regional, and seasonal factors. Duplicating each condition would require 48 samples be sorted. The total level of effort for the extended sampling study in Task II will permit only 48 samples if both recyclables and hazardous materials are the subject of the study because the identification and quantification of hazardous materials is time consuming. At this level of replication the precision of the recyclable analysis will not permit a clear distinction between the different factors that were expected to effect refuse composition. 240 to 480 samples would be required to quantify differences. With fewer samples, the 90 percent confidence ranges will overlap significantly, and it will be difficult to relate differences in composition to the variable factors rather than to the sampling variance. At this time it is not even clear that pooling all route results from each community by season would yield meaningful comparisons. It is recommended that the recyclable analysis as proposed be eliminated from the extended sampling study, and that an alternate analysis of glass, ferrous, and non-ferrous materials be substituted.

The sorting for hazardous material, which will be discussed in detail in Section 4 of this report, requires that the refuse sample be

spread out on a surface, and that the subset of the glass, plastic, and metal containers that contains hazardous material be removed for individual weighing. During this sort it is recommended that we remove all glass, ferrous, and non-ferrous containers and to sort these separately into beverage containers that are subject to "bottle bill" legislation and all others. Containers represent almost 100 percent of the glass, ferrous, and non-ferrous materials in refuse, and are easy to sort out of the refuse.

The impact of recycling legislation on the amount of glass, ferrous, and non-ferrous materials removed from the refuse stream can be measured without sorting refuse by tracking the activities and material shipments of companies engaged in recycling. It is far more difficult, however, to determine how much this activity would change the composition of refuse in California because we lack data on how much of the glass, ferrous, and non-ferrous material in refuse is due to beverage and non-beverage containers. The non-beverage containers are hard to track because the range of products and packaging practices are so diverse. The proposed study design calls for sorting a number of samples in the Spring/Summer season, before the Bottle Bill takes effect, and then sorting another set of samples in the Winter season after it takes effect.

The results of the study could then be used to measure an important impact of new recycling legislation by determining if significant reductions in the inorganic components of refuse resulted. This in turn might impact disposal options for ash generated by incinerating the non-recycled portion of municipal refuse.

An alternate strategy for Task II would be to conduct no additional sorting for recyclables but continue the literature search. There is data that has not been obtained, and if it can be assembled and analyzed, some new knowledge will result.

SECTION 4

HAZARDOUS MATERIAL IN REFUSE

REVIEW OF LITERATURE DATA ON HAZARDOUS MATERIAL FOUND IN REFUSE

Aggregated Data

Only a few studies with detailed information on waste composition were found during the literature search. In one study conducted in Los Angeles, hand sorting of 29 truck loads, 20 residential and 9 commercial, yielded 2056 containers that were judged to contain hazardous material. 92% of the containers were actually empty. The contents of all had been:

- 40.0% household and cleaning products
- 30.1% automobile products
- 16.4% personal products
- 7.5% paint and related products
- 2.5% pesticides, insecticides, and herbicides

Collectively, the 29 truckloads included a total of 48.8 gal of liquid hazardous wastes in the containers that were not empty. This is equivalent to 2.69 lbs per ton (0.13 percent or 1300 ppm). The hazardous materials were found to be:

- 46% oil and lubricant products
- 29% paint and building products
- 20% gasoline and solvents

In another study in Los Angeles, a survey (Garrison, 1983) was made at the Puente Hills Landfill (Class II, 9500 tons/day) that involved handsorting 10 household, 17 commercial, and 4 mixed waste loads. This study found that the hazardous material concentration in the household loads was only 0.0045 percent (45 ppm). The percentage of hazardous material in the commercial and mixed loads was about 0.28 (2800 ppm).

In a study for the Puget Sound Council of Governments, Cal Recovery Systems Inc. (1985) examined 33.7 tons of waste, including residential,

commercial, industrial, and self-haul waste loads for hazardous materials. All suspect objects and potentially hazardous materials were set aside and catalogued according to their source and the nature of their contents. Approximately 1500 items with potentially hazardous contents were found. The materials were classified by some broad categories, which included adhesives, pharmaceuticals, inks and dyes, solvents, paint, cosmetics, alkali, waxes, cleansers, pesticides, alcohols, aerosols, and oil and grease. These were found in the loads from the various sources in the following percentages:

SELF HAUL	RESIDENTIAL	COMMERCIAL	INDUSTRIAL
95% adhesives	80% pharmaceuticals	72% inks & dyes	49% solvents
82% paints	66% cosmetics		30% alkalis
78% waxes	62% cleansers	50% alkalis	
78% pesticides	51% alcohols		
72% aerosols	51% oil & grease		
40% solvents			

In Section 4.3 some very broad categories of hazardous materials are developed. The actual chemical compounds found by Cal Recovery were sorted into these hazardous material categories and the amounts summed to yield an over all waste composition:

Hazardous Material	concentration (ppm)
Hydrocarbons	
chlorinated	163
non-chlorinated	180
Other Organics	223
Pesticides	3
Pigments	409
Adhesives and Sealants	-
Waste Oil	-
Batteries	90

There is no entry for adhesives and sealants because actual compositions of these products were given and the materials are reported under the appropriate hydrocarbon and organic categories. No waste oil was identified in the sample. The battery weight is probably under-reported because non-metallic elements were not included in the weights reported by Cal Recovery.

The hazardous materials were not distributed uniformly throughout the refuse. 64 percent of the chlorinated hydrocarbons were found in the self haul loads, as were 60 percent of the non-chlorinated hydrocarbons and 72 percent of the "other" organics. An additional 22 percent of the chlorinated hydrocarbons were found in the industrial waste loads, along with 25 percent of the non-chlorinated hydrocarbons and 15 percent of the "other" organics.

Implications for a Sampling Program

Taken together, the studies reported indicate that the actual percentage of refuse that is potentially hazardous may be quite small, and that the bulk of the organic material that is potentially hazardous comes from self haul loads and commercial/industrial sources. Refuse collected in packer trucks from residential routes appears to have a very low concentration of potentially hazardous material. Since the percentages are small, any sampling program will have to examine a large number of samples or a fair number of large loads in order to obtain precise estimates of waste composition. In addition, emphasis will have to be shifted from residential routes to self-haul routes in order to detect interesting levels of materials.

PILOT SAMPLING FOR HAZARDOUS COMPONENTS IN REFUSE FROM SAN MATEO COUNTY

To aid in defining the hazardous materials that should be studied, and to determine the level of effort required to quantify the concentrations of hazardous materials found in domestic refuse, two preliminary samples were sorted and analyzed.

First Sample (October 10, 1986)

The first preliminary sample was obtained on Friday morning, October 10, 1986 in the BFI transfer station in San Carlos, CA. The sample was obtained from a packer truck following a predominantly residential route in Belmont, California.

The refuse was sampled by segregating 2091 pounds of the truck load. This segregated sample was sorted exhaustively to separate out all hazardous or potentially hazardous wastes. Since final choices as to hazardous waste categories had not been made when this sample was sorted, all containers that were not obviously food related were considered to contain hazardous materials.

Results based on Identified Containers

The sample had an unexpected number of automobile and laundry related products. It was discovered that although the route was predominantly residential, it included an automobile service station and a commercial laundromat. The hazardous or potentially hazardous wastes from the sample cannot be considered to reflect household behavior because of these two sources. All automotive products and laundry products were identified as probably from these sources and excluded from the enumeration that follows. This may bias the sample results somewhat, but in our estimate, the bias is far less than would result from leaving the material in. Table 4.1 shows the empty containers, and Table 4.2 shows the containers with residue. The residue weights are shown, along with their percentage of the total sample of 2091 pounds. The percentages are shown in parts per million because they are so small. It is clear that cleaning and personal care products dominate the sample.

Results based on Generic Contents

In Section 4.3 below, a number of recommendations are made with respect to the actual hazardous material categories that should be reported during the extended sampling study. These recommendations are

based on factors such as toxicology and bounding estimates of the amount of hazardous material that could be expected in California domestic refuse. The results of converting the residues in the October sample to those hazardous material categories is presented below. For each product residue, a product recipe in terms of the generic hazardous materials categories was used to determine the amount of hazardous material present. The totals for each of the hazardous material categories were found by summation and then divided by the total sample weight to determine refuse composition. See Section 4.3 for the complete discussion of the methodology. Note that the concentrations for alkali and oxidant are not recommended for consideration in the extended sampling study because they are not considered hazardous. They are reported here because the data were available.

Material Category	Concentration in Refuse (ppm)
Hydrocarbons	
chlorinated	-
non-chlorinated	9
Other Organics	2
Pesticides	-
Pigments	-
Adhesives and Sealants	-
Waste Oil	-
Oxidant	1
Alkali	2
Batteries	463

The level of alkali and oxidant in the sample is low because it was purged of most laundry products to eliminate material from the commercial laundromat. The waste oil value is low because automotive products were purged to eliminate material from the service station. The levels of organic (chlorinated, non-chlorinated, and other) are low because no paint products that could be quantified were found in the

sample. There is no entry for pigments because paint products could not be quantified.

Table 4.1: Potentially Hazardous Items Found in the October Refuse
Sample: Empty Containers

Product	Brand	aerosol
Cleaners		
Bathroom cleaner	Dow	yes
Bathroom cleaner	Lysol	
Air freshener	Avon	yes
Drain cleaner	Drano	
Cleanser (scrubbing)	Comet	
Cleanser (scrubbing)	Generic	
All purpose cleaner	Formula 409	
Dishwashing detergent	Sunlight	
Floor cleaner	Mop & Glow	
Mildew remover	Easy-off	
Personal Care Products		
Nail polish remover		
Hair Reconstructor	Redmond	
Hair conditioner	Country Meadows	
Styling mousse	Suave	yes
Deodorant	Lancome	
Deodorant	Arrid	yes
Deodorant	Brut	yes
Deodorant	Sure	yes
Cologne	Devin	
Shampoo	Finesse	
Hair spray		yes
Hand soap	Soft Soap	
Styling gel	L'Oreal	
Paint	Color-Lac	
Sealant	White	
Flea collar(2)		
Potassium gluconate	Safeway	
Taramet (drug)		
Headache medicine	Tylenol	
Cough Syrup	Sudafed	
Nose Drops		
Eyedrops		

Table 4.2: Potentially Hazardous Items Found in the October Refuse
Sample: non-Empty Containers

Product	Brand	aerosol	amount	
			lb	ppm
Computer Ribbon			0.322	154
Used Paint Brush				
Adhesive	Barge (Redi-Quick)		*	
Adhesive	Miracle	yes	0.133	64
Sealant	Weathertite		0.0022	1
Air freshener	Renuzit	yes	0.282	135
Petroleum Jelly	Vaseline		0.047	22
Shoe Polish	Meltonian		0.0009	<1
Floor Cleaner	Mop & Glow		0.032	15
Cleanser (scrubbing)	Comet		0.026	12
Bathroom Cleaner	Lysol	yes	*	
Flea Killer	Raid	yes	0.044	21
Hydrocortizone lotion				<1
Dorbenzine (drug)				<1
Battery- D cell (1)			0.29	139
Battery-AA cell (5)			0.227	109
Battery- C cell (1)			0.084	40
Battery- 9 volt (1)			0.078	37
Battery- Mercury (2)			0.289	138

* contents could not be extracted

Second Sample (November 16, 1986)

The second preliminary sample was obtained on Friday morning, November 14, 1986 in the BFI transfer station in San Carlos, CA. For this sample a collection route in San Carlos was chosen. The route contained both multi-family dwellings and single family homes. The refuse sample was taken from the rear portion of the packer truck since the single family neighborhood was collected last. San Carlos is the community immediately south of Belmont, and represents the same type of community. A new community was chosen because there were no pure residential routes available in Belmont on Fridays.

The refuse was sampled by segregating two 2 cubic yard portions in preweighed debri boxes. Box 1 contained 556 pounds of refuse, and Box 2 contained 600 pounds. The segregated portions were spread out separately on the transfer station floor and searched for potentially hazardous materials. The same definition of hazardous or potentially hazardous applied to the October sample was used. The hazardous wastes from the San Carlos sample can be considered to reflect household behavior because they are not contaminated with commercial wastes as was the previous Belmont sample. The two boxes were kept separate in order to generate additional statistics on the variability of the potentially hazardous components.

Results Based on Identified Containers

Table 4.3 shows the empty containers removed from Box 1 and Table 4.4 shows the empty containers removed from Box 2. Table 4.5 shows the containers with residue found in Box 1, and Table 4.6 shows the containers with residue found in Box 2. The residue weights are shown in these tables, along with their percentage of the total sample in the box. The percentages are shown in parts per million because they are so small. As with the first sample, personal care and cleaning products dominate the sample.

Results based on Generic Contents

In Section 4.3 below, a number of recommendations are made with respect to the actual hazardous material categories that should be reported during the extended sampling study. These recommendations are based on factors such as toxicology and bounding estimates of the amount of hazardous material that could be expected in California domestic refuse. The results of converting the residues in the November samples to those hazardous material categories is presented below. For each product residue, a product recipe in terms of the generic hazardous materials categories was used to determine the amount of hazardous material present. The totals for each of the hazardous material categories were found by summation and then divided by the total sample weight to determine refuse composition. See Section 4.3 for the complete discussion of the methodology. Note that the concentrations for alkali and oxidant are not recommended for inclusion in the extended sampling study. They are reported here because the data were available.

Material Category	Concentration in Refuse (ppm)	
	Sample 1	Sample 2
Hydrocarbons		
chlorinated	427	-
non-chlorinated	34	30
Other Organics	-	25
Pesticides	3	-
Pigments	-	-
Adhesives and Sealants	53	133
Waste Oil	-	-
Oxidant	6	-
Alkali	67	20
Batteries	2426	287

A most interesting observation about these two samples is that the chlorinated solvent level in one is very high. This is due to a single discarded product - a carpet cleaner. The cleaner was a sawdust based

product impregnated with drycleaning fluid. It is also striking that there is an order of magnitude difference in the concentration of batteries in the two samples.

Labor Requirements for Sampling

The labor requirements for the first sample were not reported because they included most of the learning experience. The second preliminary sample required two hours by four people (eight person hours) to spread it out, open all of the garbage bags, and segregate the containers that were expected to contain hazardous material. The segregated samples required one person 22 hours to identify and record all of the containers, and weigh the residue in the non-empty containers. 130 items were handled, and 111 residue weights were determined. If the laundry, personal care, and pharmaceutical products were eliminated from consideration as recommended, then only 46 items would have been handled, and 45 weighed. This would have reduced the time required to hand sort the sample, and definitely would have reduced the time required to determine the residue weights. For the extended sampling study in Task II as recommended, it is estimated that 8 person hours will still be required for to hand sort a 2 cubic yard sample because of the glass and metal recyclable container sorting that is included. It is estimated that residue determination, generic recipe analysis, and data entry will require 8 person hours for each 2 cubic yard sample.

Table 4.3: Potentially Hazardous Items Found in November Refuse Sample
Empty Containers in Box 1

Product	Brand
Pharmaceuticals	
Penicillin	
Vitamin C	Vita-Fresh
Pain killer	Bufferin
Iso-propyl alcohol	Thrifty
Suppositories	Preparation H
Oral Antiseptic	Cank Aid
Cleaners	
Bleach	
Miscellaneous	
Pump action spray bottle	

Table 4.4: Potentially Hazardous Items Found in November Refuse Sample
Empty Containers in Box 2

Product	Brand	aerosol
Personal Care		
Deodorant	Sure	
Eye makeup	Estee-Lauder	
Perfume		
Laundry Products		
Fabric softener	Bounce	
Laundry Detergent	Fresh Start	
Pharmaceuticals		
Diet Pills	Dexatrim	
Cold Medicine	Sinutab	
Pain killer	Excedrin	
Birth Control Pill	Ortho-novum	
Guarana (40% caffeine)	Herbalife	
Insecticide	Black Flag	yes
Latex Caulk	Rely-on	

Table 4.5: Potentially Hazardous Items Found in November Refuse Sample
non-Empty Containers in Box 1

Product	Brand	aerosol	amount lb	ppm
Laundry Products				
Laundry Detergent (2)	Tide		0.0044	8
Laundry Detergent	Arm & Hammer		0.0011	2
Laundry Detergent	Purex		0.0551	100
Cleaners				
Carpet Cleaner (2)	Domestique		0.9370	1700
Carpet Cleaner (liquid)	Domestique		0.0059	11
Cleanser	Comet		0.1014	182
Cleanser	Ajax		0.0088	16
Toilet Cleaner (2)	2000 Flushes	inert ingredients		
Dish Washing Detergent	Cascade		0.0154	28
Dish Washing Liquid	Palmolive		0.0044	8
Pesticides				
Insecticide (flea & tick)	VIP		0.0849	153
Insecticide (flea & tick)	Sendran	yes	0.0970	174
Pharmaceuticals				
Vitamins (3)	Stuart Natal		0.0463	83
Ear drops (2)	Cortisporin		0.0198	36
Vet. Multicleans soln.	Oti-Clens		0.2348	422
Nasal Spray	4 Way		0.0055	10
Painkiller	Femcaps		0.0023	4
Personal Care				
Hair conditioner (2)	Pantene		0.1058	190
Hair conditioner	Finesse		0.0132	24
Hair conditioner	Clairol Ultress		0.0048	9
Hair shampoo	Sebulex		0.0669	120
Hair shampoo	Vidal Sassoon		0.0062	11
Shampoo	-		0.0584	105
Sunscreen	Shade		0.0772	139
Cologne	Senchal		0.0009	2
Eye Cream	Around your Eyes		0.0016	3
Deodorant	Secret		0.0113	20
Toothpaste	Colgate		0.0056	10
Motor oil	Valvoline		<0.0011	<2
Motor oil	Castrol		<0.0011	<2
Motor oil	Raylube		0.0022	4
Wood preservative	Copper Green		0.0099	18
Wood conditioner	Scott's Liquid Gold		0.0099	18
White glue	Elmers		0.0295	53
Battery AAA			0.0176	32
Battery 9V (2)			0.2000	360
Battery AA (27)			1.1310	2034

Table 4.6: Potentially Hazardous Items Found in November Refuse Sample
non-Empty Containers in Box 2

Product	Brand	aerosol	amount lb	ppm
Pharmaceuticals				
vet. laxative cream	Laxatone		0.1113	186
vet. amoxycillin	Amoxi-drop		0.0342	57
Cleaners				
Toilet Cleaner (2)	2000 Flushes	inert ingredients		
Toilet Cleaner	Blue Vanish		<0.0004	<1
Disinfectant	Lysol		0.0022	4
Floor polish	Futura		0.0011	2
Laundry Products				
Laundry Detergent	Oxydol		<0.0004	<1
Liquid Laundry Detergent	Tide		0.0121	20
Laundry Detergent	Tide		<0.0002	<1
Laundry Detergent	Cheer		<0.0002	<1
Laundry Detergent	Surf		0.0022	4
Personal Care				
Hand cream	Vaseline		0.0595	99
Aloe Vera Juice	Viva Vera		0.0276	46
Baby oil	Kmart		0.0011	2
Hair shampoo	Vidal Sassoon		0.0265	44
Cleansing gel	Mary Kay		0.0033	6
Body Lotion	Neutrogena		0.0044	7
Skin Cleanser	Noxzema		<0.0004	<1
Makeup	L'Oreal		0.0040	7
Cologne	Polo		<0.0004	<1
After shave	Brut		0.0227	38
Hair dye	Technifaces		0.0728	121
Lip Gloss			0.0094	16
Perfume			0.0016	3
Toothpaste	Dentaguard		0.0250	42
Toothpaste	Aquafresh		0.0131	22
Nail Polish	Sally Hansen		0.0263	44
Perfume	Fleur d'Elle		0.0009	2
Aftershave	Sir		0.0003	1
Mascara	Super Rich		0.0162	27
Battery 9V			0.0997	166
Battery AA (2)			0.0726	121
Catnip scent	Doctor X		0.0618	103
Iodine Tablets	Water Purification		0.0127	21
Bicycle Tire sealant			0.0797	133
Antifreeze*	Prestone II		2.8494	4749
Auto Transmission fluid	Penzoil		0.0143	24
Motor oil	Valvoline		0.0022	4

* contents appeared to be water

Sampling Statistics

A statistical analysis of the Task I samples of hazardous material concentrations in refuse is shown below. The analysis assumes that the estimates of the mean are normally distributed.

Hazardous Material Category	Mean of Samples (ppm)	Standard Deviation	Number of Samples Required to Obtain a 95% Confidence range of $\pm 10\%$ of the mean
Hydrocarbons			
chlorinated	142	246	300
non-chlorinated	24	13	30
Other Organics	9	14	238
Pesticides	1	2	300
Pigments	-	-	-
Adhesives and Sealants	62	67	117
Waste Oil	-	-	-
Batteries	1057	1187	126

The standard deviations are large, often larger than the mean. A major reason for this is that a representative of each of the hazardous material categories was not found in every sample. Pigments were found in none of them because there were no quantifiable paint residues, and used motor oil was found in only one, but not counted because it was believed to come from a service station. Distinguishing refuse from different routes, from different communities, and from different seasons will require high precision. SRI believes that a good target for precision should be a 95% confidence interval that is only plus or minus 10% of the mean. In the case of chlorinated hydrocarbons, this would mean a confidence interval of 142 ± 14 , while for batteries it would mean an interval of 1059 ± 106 . If the variance of subsequent samplings is the same as for the preliminary samples, this level of precision would require a large number of samples, as is illustrated in the third column of the table. For example, in order to characterize a single family collection route in a northern, wealthy city during the spring/summer season, 300 samples would be required for chlorinated hydrocarbons. For some of the other categories the required number of

samples is less, but 100 might be a good compromise to include all of the categories at a reasonable level of precision.

Implications for the Remainder of the Study

The proposed design for the study calls for three routes (single family, multiple family, self-haul) in four cities (two in northern California and two in southern California) during two different sampling seasons. This represents 24 different conditions. The level of effort that can be committed to sampling in Task II will allow at most three replicates, which means a total of 72 samples. If all of these samples were pooled without regard to source or season, we could achieve an aggregate measure of hazardous material concentration in metropolitan California refuse with close to the target level of precision. If we pooled northern or southern California samples without regard to city or season, we would have 36 samples in each pool. Using the same example as above, this would yield a 95% confidence limit for chlorinated hydrocarbons of 142 ± 41 ppm and for batteries of 1059 ± 197 ppm. This is not considered adequate to distinguish the two regions. It will not be feasible to pool samples by route type or city and expect to observe significant differences, since the number of samples in each pool will be even less than 36.

Since the statistical analysis shows that it will not be possible to demonstrate significant differences in refuse composition, SRI recommends a sampling strategy for hazardous materials that gives a maximum precision to an aggregate estimate of composition by maximizing the number of samples that can be sorted. This requires eliminating the southern California sampling site in order to increase the number of samples that can be sorted. SRI believes that all sorting should be conducted by a well trained and properly motivated team. We do not believe that contract labor can complete the task satisfactorily. SRI can provide team members from its full time staff at the northern California site without extra expense. Sampling at the southern site with this same team includes a significant burden for travel, subsistence, and a high level of expense for shipping hazardous

materials back to SRI for residue determination. Consider that refuse is collected from any individual route only once a week. This means that route replication would require a separate trip for the sampling team each time, since the program does not permit a level of activity that would allow sampling to extend over an entire week.

Sampling at the northern site only will allow more than 3 replicates of some routes during each season, since there is no real burden involved in sending the team out for a single day to pick up a set of routes, and the money not spent on travel can be used for extra samples. The statistical analysis has suggested that even four or five replicates of a single route may not be enough to distinguish routes, but the extra samples may allow some distinction of community type, or household type, when data is pooled.

The literature review indicated quite clearly that the major input of toxics to refuse from households was not from household collection routes, but rather from self-haul loads. These represent garage and basement clean-outs conducted both by householders themselves and "Handyman" contractors who use their pickup trucks to earn extra income. This self-haul activity was observed during the preliminary sampling conducted at the BFI transfer station. Informal observation confirmed that there are paint, pesticide, and solvent residues in these loads at a level that exceeds what was found in the BFI collected samples. SRI recommends that the number of self haul loads sorted during the extended sampling study of Task II be doubled from what was originally proposed.

San Mateo County where the BFI transfer station is sponsors hazardous waste pick up days. These are designed to intercept truly hazardous material and keep it out of the landfill. The statistical analysis suggests that the concentration estimates will not be precise enough to detect any difference in hazardous material in refuse before and after these pick up days. However, since we can generate a fairly precise estimate of the total level of hazardous materials in the aggregate waste stream, we recommend monitoring the pick up day so that we will be able quantify the amount of material intercepted. We will

then be able to measure the effectiveness of a hazardous waste interception program.

RECOMMENDATIONS FOR HAZARDOUS MATERIAL SAMPLING IN TASK II

A refuse sampling study will be designed to identify products or groups of products that contain hazardous materials. The discussion below first considers what materials should be considered hazardous, and then identifies the significant products or product groups containing those materials.

Material Categories Considered

The original list of hazardous materials categories proposed for study included:

Solvents	Thinners
Paints	Insecticides
Herbicides	Household cleaners
Household polishes	Automotive products
Pharmaceuticals	Aerosol products
Waste Oil	Pool chemicals
Adhesives	Inks and Dyes
Acids	Alkali
Lighter fluid/fuel	Alcohol
Batteries	Explosives

These do not represent a consistent set of categories, since some are identifiable products, and others are material categories or ingredients of products. Toxicity, hazard, and consumption data on consumer products and their ingredients were collected to determine if material categories should be added or subtracted, or if the list could be simplified in some other manner. Our methodology was to search Federal and California state regulations for lists of hazardous materials and to use consumer product composition data to identify the product or product classes that would be of concern because they contained these hazardous materials. Following this methodology, two sources of data were considered in detail -- United States Environmental Protection Agency solid waste disposal regulations (USEPA 1986a), and Clinical Toxicology of Commercial Products (CTCP).

The CTCP is an online computerized data base in the Chemical Information System that is based on the book "Clinical Toxicology of

Commercial Products" by Gosselin et al. The database contains two submodules of interest, one containing data on the ingredients of commercial products, and the other data on the toxicity of ingredients commonly found in commercial products. The Commercial Product Data submodule contains the ingredients of over 22,000 commercial products commonly sold to household consumers. Specific ingredients that are known to exert toxic effects when misused or ingested are identified. The ingredient submodule contains more detailed toxicological data on more than 1500 specific ingredients. The two submodules are linked by the Chemical Abstract Registry (CAS) numbers of the ingredients or Location Numbers. The data is quite comprehensive, but it is not complete. Products are included that have been discontinued, and because updates are voluntary on the part of producers, newer products and/or ingredients are sometimes missing.

EPA regulations for solid waste disposal identify materials that require special handling when they are disposed of by industry and businesses because they are believed to represent a significant hazard to the environment. Most of these materials are not subject to special regulation when disposed of by households because the volumes or concentrations involved are low. Sometimes the hazard is due to properties such as reactivity or pH, but often is due to biological toxicity.

377 unique chemicals identified in the EPA solid waste disposal regulations were used to search the CTCF database. Many of the chemicals were found to be ingredients of commercial products. The actual number of commercial products identified was more than several thousand. The data shows that a substantial number of products contain hazardous materials, and that some very broad material categories can be utilized to track these materials. Table 4.7 shows the hazardous chemicals and the number of products they were found in. A comparison of this list with the actual data collected by Cal Recovery for the Puget Sound Council of Governments shows that many of these compounds can be found in refuse.

Table 4.7: Chemicals found in Common Consumer Products that are listed as Hazardous Materials in Appendix VIII of the Regulations Developed by the U.S EPA to Implement the Resource Conservation and Recovery Act

Chemical	Number of Consumer products Containing the Chemical
Non-chlorinated Hydrocarbons	
Benzene	8
Naphthalene	27
Toluene	206
Chlorinated Hydrocarbons	
Trichloroethylene	17
1,1,2,2-Tetrachloroethane	2
Tetrachloroethylene	41
Propylene dichloride	9
Pentachloroethane	1
Methyl chloroform	71
Methylene chloride	146
Hexachlorobenzene	8
Hexachloroethane	3
Ethylene dichloride	42
1,3-Dichloropropane	7
o-Dichlorobenzene	23
p-Dichlorobenzene	119
Chloroform	108
Tetrachloromethane	57
Chlorobenzene	2
1,3-Dichloropropane	7
Vinyl chloride	1
Other Organics	
Acrolein	2
Acrylonitrile	1
4-Aminopyridine	11
Bis(2-chlorethyl) ether	1
Brucine	1
Butyl benzyl phthalate	20
Cacodylic acid	21
Calcium cyanide	2
Carbon disulfide	26
Chlorambucil	1
p-Chloro-m-cresol	3
1-Chloro-2,3-epoxypropane	5
Coal tar	33
Dibutylphthalate	24
Dichlorodifluoromethane	94
1,4-Diethyleneoxide	1
Diethylphthalate	8
Diethylstilbesterol	2
Diisopropylfluorophosphate	1
Dimethylphenethylamine	4
Dimethylphthalate	20

4,6-Dinitro-o-cresol	1
2,4-Dinitrophenol	1
Di-n-octylphthalate	2
Diphenylamine	6
Ethylene dibromide	38
Ethyl cellosolve	25
Ethylene oxide	6
Ethylene thiourea	2
Fluoroacetic acid, sodium salt	2
Formaldehyde	136
Hexachlorophene	153
Hydrazine	3
Isobutyl alcohol	3
Methyl ethyl ketone	41
Nitrobenzene	1
Nitroglycerin	13
p-Nitrophenol	6
Paraldehyde	1
Phenacetin	203
Phenol	210
Phenylmercury acetate	36
Potassium cyanide	1
Pyridine	4
Reserpine	36
Resorcinol	71
Saccharin and its salts	27
Safrole	4
Tetraethyl lead	4
Thiourea	13
Trichloromonofluoromethane	52

Pesticides

Aldrin	21
Amitrole	11
Aramite	4
Chlordane	142
Chlorobenzilate	2
Creosote	2
Diallate	5
1,2-Dibromo-3-chloropropane	6
2,4-D	62
DDD	13
DDT	64
Dieldrin	30
Dimethoate	20
Dinoseb	9
Disulfoton	16
Endosulfan	33
Endrin	19
Heptachlor	28
Kepone	11
Maleic hydrazide	3
Methomyl	7
Methyl bromide	16
Methyl parathion	48

Nicotine and salts	13
Octamethylpyrophosphoramid	1
Pentachloronitrobenzene	37
Pentachlorophenol	151
Phorate	7
Pronamide	1
2,3,4,6-Tetrachlorophenol	1
Tetraethyldithiopyrophosphate	5
Tetraethylpyrophosphate	2
Thiram	62
Toxaphene	101
2,4,5-Trichlorophenol	3
2,4,6-Trichlorophenol	1
2,4,5-T	9
Warfarin	92
Silvex	12
Strychnine and its salts	50
Parathion	48
Methoxychlor	169
Lindane	63

Sources:

United States Environmental Protection Agency, 1986,
Federal Register, Vol 51, pp 28305-28310

Gosselin, R. E., R. P. Smith, H. C. Hodge, J. Braddock,
1984, "Clinical Toxicology of Commercial Products,
Fifth Edition" Williams and Wilkins, Baltimore Md.

The number of commercial products identified is too large to enumerate, and it is certainly too large to form the basis of a list of products to look for while sorting refuse. For this reason, the approach of determining potentially hazardous products by considering the details of ingredients was terminated. We did not try to extend the list of specific hazardous or toxic ingredients by searching other Federal regulations or California solid waste regulations.

Generic Approach Recommended

A generic approach based on classes of ingredients and the toxicity of classes of products was adopted. The ingredient class approach for organics was implied by the arrangement of materials in Table 4.7. It is clear that there are four classes of organic chemical that are significant when considering hazard or potential hazard. Non-chlorinated hydrocarbons include benzene, toluene, and the bulk of the standard solvents; chlorinated hydrocarbons include the chlorinated solvents associated with dry cleaning, and some of the more complex chemical intermediates; other organics, which includes all of the alcohols, ketones, aldehydes normally considered to be solvents and non-chlorinated chemical intermediates; and pesticides. Any product with a significant level of material from one of these classes was determined to be a candidate for further consideration. Other classes recommended are Pigments, Adhesives and Sealants, Waste oil, and Batteries. In the discussion that follows, Pigments, Adhesives and Sealants, and Batteries are considered to be both products and generic hazardous materials. It may be worthwhile in the future to consider breaking them down in terms of other ingredients. Adhesives, for example, are a mixture of hydrocarbons and other organics.

Toxicity Considerations Eliminate Non-hazardous Materials and Products Containing Them

The toxicity approach was taken from the CTCP, which puts products and product ingredients into one of six categories. The toxicity rating of the categories is based on an estimate of mortality from a single oral dose of product. In many cases the estimates are based on

laboratory animal studies rather than human data. Often no toxicity rating is given for products containing mineral acids, alkalis, bleaches, etc. because mortality from these products often results from severe local tissue injury rather than toxic effects. Mortality is determined by concentration of the hazardous agent, rather than by a specific dose.

Toxicity Rating	Probable Oral Lethal Dose
6 - Supertoxic	<5 mg/kg (7 drops)
5 - Extremely toxic	5 - 50 mg/kg (1 tsp)
4 - Very toxic	50-500 mg/kg (1 ounce)
3 - Moderately toxic	.5 - 5 g/kg (1 pint)
2 - Slightly toxic	5 - 15 g/kg (1 quart)
1 - Probably non-toxic	>15 g/kg

This toxicity rating scale does not include any longterm effects (such as cancer) that might occur from exposure to low levels of material without acute toxicity. Materials with longterm effects could pose a significant hazard to a nearby population if they leaked out of a solid waste disposal facility into the air or groundwater. Our decision was not to extend our search to identify these materials. Our reason was that although in isolated cases we might miss a specific product or product class that should be considered, most of the materials that we know pose a longterm hazard are already included in the four classes of chemicals already being considered. In addition, we have to believe that governmental regulation acts to minimize the presence of these types of hazardous material in consumer products.

It is recommended that except in specialized circumstances, only products with a toxicity rating of 4 or more should be considered for enumeration in refuse samples. The listing below of products with a toxicity rating of 4 or greater was taken from the CTCF.

Toxicity Rating 6

Sports products (gun blueing)

Toxicity Rating 5

Agricultural products
(fertilizers)

Arts and crafts products
(watercolors)

Batteries

Cosmetics

Permanent wave neutralizer

Hair preparations

Toxicity Rating 4

Adhesives

Marine glue

Microfilm cement

Plastic cement

Shoe cement

Arts and crafts supplies

Aerograph colors

Fabric paint

Oil paint

Artist pastels

Lead pencils

Porcelain enamel powder

Poster colors

Tempura paints

Automotive products

Carburetor cleaner

Corrosion inhibitors

Engine cleaners

Radiator cleaners

Tire paint

Tire repair kits

Undercoating

Cleaners

Chrome

Dairy

Metal

Detergents (high alkalinity)

Paint brush cleaner

Paint and varnish removers

Rug cleaner (adsorbent)

Rust and ink remover

Tar remover

Toilet bowl cleaner

Coating

Asphalt

Aluminum

Rubber based

Silicone based

Cosmetics

Denture cleaner

Nail polish and polish
remover

Decorations (Christmas tree
snow spray)

Degreasers

Deicers (automotive fuel
systems)

Deodorizers

Bathroom (naphthalene
based)

Garbage can

Disinfectants

Dyes

Leather

Fabric

Fire Extinguishers

Liquid (halon)

Powder (borax)

Fireplace colors

Fireworks

Soldering Fluxes

Foams (because of catalyst)

Fire Kindlers

Inks

Laundry and household bleaches

Mildew proofing

Non prescription drugs

Paints

Anti algae

Anti corrosion

Driers

Pet care products

Photographic Chemicals

Developers

Film cleaners

Hypo

Intensifiers and reducers

Polishes

Preservatives

Concrete

Floor

Rust control chemicals

Sanitizers (air)

Solvents and thinners

There are a large number of products or product classes with toxicity ratings of 3 or less but they can be screened out because none of them represents a significant enough hazard, since they require consumption of a pint or more in-order to cause death.

Recommended Products for Task II Extended Sampling Study

Many of products with a toxicity rating of 4 or more can be eliminated because they are not used in large enough quantities to contribute a significant level of toxic materials to domestic refuse. Many of the eliminated materials were not found in any of the preliminary samples. The products or product groups that were tentatively recommended for inclusion in an extended study include:

Paint	Solvent
Adhesive	Sealant
Pesticide	Automotive Products
Polishes	Preservatives
Batteries	Floor and furniture cleaners

Each of these products or product groups contains one or more of the generic hazardous materials of concern. Table 4.8 shows more details of the products or product classes that survived the initial screening, including the generic hazardous materials in them that are the reason for their being included. The list of ingredients was developed from product recipes in the CTCP.

Table 4.8: Summary of recommendations of consumer products or product classes to be enumerated in the extended sampling of domestic refuse

Recommended for Inclusion

Product or product class	Ingredient
Paint	pigment non-chlorinated hydrocarbons
Solvent	chlorinated hydrocarbons non-chlorinated hydrocarbons other organics
Adhesives	other organics chlorinated hydrocarbons non-chlorinated hydrocarbons
Sealants	chlorinated hydrocarbons non-chlorinated hydrocarbons other organics
Pesticides	active ingredient non-chlorinated hydrocarbons chlorinated hydrocarbons
Automotive products (other than polish)	non-chlorinated hydrocarbons other organics waste oil
Polishes	non-chlorinated hydrocarbons other organics
Preservatives	chlorinated hydrocarbons non-chlorinated hydrocarbons other organics
Batteries	heavy metals
Floor and furniture cleaners (other than polish)	other organics

Recommended for Exclusion

Product or product class	Ingredient
Lighter fluid ^b	non-chlorinated hydrocarbons
Pharmaceuticals ^b	numerous
Pool chemicals ^a	oxidant
Laundry products ^a	alkali oxidant
Dishwashing products ^a	alkali
Cleansers ^a	alkali oxidant

^a Recommended for exclusion from sampling because the components will react with other materials in decaying refuse. The reactions will probably be beneficial because they neutralize other harmful materials.

^b Recommended for exclusion from sampling because the bounding estimate or the pilot sampling shows that this is unlikely to be found in large amounts. Many samples will contain none of this material.

At the end of Table 4.8 are a number of products and product classes that made it through the screening but which SRI recommends not be included in the extended sampling study. The cleaning products are not recommended for inclusion because they are not toxic in the traditional sense and can react with other components in refuse to neutralize their effects. The alkalis will react with the organic acids that are formed by anaerobic decay processes in landfills. The oxidants will will react with many organics, including some of the toxic components, to neutralize them. Lighter fluid and Pharmaceuticals did not make it through the screening but are included in the "not recommended" section of Table 4.8 because they were mentioned specifically as candidate products for enumeration in the methodology proposed by the California Waste Management Board.

Data Analysis For Task II

Generic Recipes

The CTCF (Gosselin, 1984) was used to assemble a set of typical or generic recipes for products considered for study. The recipes are stated in terms of the materials or material classes that are responsible for their being included. In cases where the generic recipes showed a range of values, the mean of the range was used. In a few cases, it was not possible to develop a typical recipe. An important example of this is architectural coatings, since paint includes a wide range of formulations based on both solvents and water. The results for products where a recipe could be developed are summarized in Table 4.9. Missing recipes will be developed in later phases of the sampling program when actual products are found in waste samples that require quantification.

Sample Quantification

The recommended data analysis for hazardous materials involves the following simple strategy:

- (1) Remove from the refuse sample all containers of products, product classes, or hazardous material class that are recommended for inclusion in the extended sampling study.

- (2) Tabulate number of empty containers
- (3) Weigh contents of partially empty containers
- (4) Use generic recipe to convert content weights into weights of the hazardous materials or hazardous material categories that are being reported.
- (5) Weights will be converted into concentrations using the total weight of the refuse sample.
- (6) Report the data for weight and concentration in the tabular format required by the California Waste Management Board. Data will be segregated in terms of any route, city, socioeconomic, regional, and seasonal factors used to categorize refuse samples.
- (7) Appropriate total and seasonal summary statistics (mean and variance) will be prepared for any route, city, socioeconomic, and regional factor used to categorize refuse samples.

Table 4.9: Generic Formulas for Consumer Products

Household pesticide	
pesticide	5%
non-chlorinated hydrocarbons	95%

Lighter fluid	
non-chlorinated hydrocarbons	100%

Scouring cleanser	
alkali	15%
oxidant	3%

Dishwashing liquid	
other organics	5%

Dishwashing powder	
alkali	30%
phosphate	30%

Laundry liquid	
other organics (alcohol)	9%
phosphate	15%

The phosphates are generally in the form of sodium pyrophosphates and polyphosphates which are alkaline in solution.

Laundry powder	
phosphate	15%
alkali (sodium carbonate)	15%

The phosphates are generally in the form of sodium pyrophosphates and polyphosphates which are alkaline in solution.

Pool chemicals	
oxidant	100%

Liquid bleach	
oxidant	7%

The phosphates are generally in the form of sodium pyrophosphates and polyphosphates which are alkaline in solution.

Liquid floor cleaner	
other organics (pine oil)	5%

Automobile polish	
non-chlorinated hydrocarbon	40%
other organics	5%

Liquid furniture polish	
non-chlorinated hydrocarbon	80%
Liquid floor polish (and wax)	
polymer (not a material of concern)	10%
other organics	10%
Shoe polish	
non-chlorinated hydrocarbon	35%
other organics	25%
Leather polish	
other organics (turpentine)	40%
Metal polish	
non-chlorinated hydrocarbon	50%
Oven cleaner	
alkali	10%
non-chlorinated hydrocarbons	15%
Carpet cleaner (dry adsorbent)	
chlorinated hydrocarbon	25%
Upholstery cleaner	
chlorinated hydrocarbon	50%
Aerosol air freshener	
non-chlorinated hydrocarbon	6%
Motor oil	
non-chlorinated hydrocarbons	100%
Transmission fluid	
non-chlorinated hydrocarbons	100%
Anti-freeze	
other organics	95%

Sources: Gosselin et al, 1984; SRI International

Bounding Estimates of Hazardous Material in Domestic Refuse in California

The approach to making bounding estimates of hazardous materials in refuse is quite similar to that recommended by Boyd and Hawkins (1971). Estimates of the amount consumer products purchased in California that could contribute hazardous materials to domestic refuse were made. Assumed consumption behavior and generic recipes were then used to convert the amounts of products into the amounts of hazardous material that could be expected in refuse.

Consumer Products in California

Estimates of the amount consumer products that could contribute hazardous materials to domestic refuse were made primarily using the Consumer Expenditure Study (CES) found in the September issues of Supermarket Business and the 1982 Census of Manufactures (COM) (U.S. Bureau of the Census, 1985). Other sources were used as needed. The CES contains the dollar value of total United States domestic consumption of various classes of products; The COM contains information on the quantity of products shipped by U.S. companies. A 1985 estimate of product quantity was generated by assuming that volumes and dollar values were directly proportional, after making a correction for inflation. Product quantity estimates were obtained by assuming that since 11.2 percent of the U.S. population resides in California, 11.2 percent of the total domestic consumption will occur in California. A corollary assumption is that the consumption habits in California are the same as in the total population.

When looking at the figures, it is important to keep in mind several points. First, most of the values are probably on the high side, partly because they do not include the variability of price increases that are added to a product once the product leaves the producer. Second, however, some quantities may be understated because they do not include imports from outside the United States. It is expected that the error is no more than a factor of two one way or the other. In some cases the products listed do not represent the exact

chemical composition of the material that will be thrown away. A particular example is batteries, where complex chemical reactions take place during the use cycle. An unused mercury cell, for example, contains a small amount of metallic mercury and large amounts of mercuric oxide. After use the balance has shifted to metallic mercury.

Table 4.10 shows the results of the estimates for 1985. 1985 was chosen as the reporting year because that was the last year for which complete statistics could be assembled. It was not possible to quantify the amount of liquid cleaners (such as floor cleaning products like Mr. Clean etc.), or the amount of drain cleaning products, rug cleaners, and toilet bowl cleaners. There are some product shipment dollar values that it may be possible to convert to weight values during the extended sampling phase of the study. SRI is still attempting to quantify the amount of architectural coatings (paint and paint related products) used by household consumers.

Table 4.10: Estimated Volume of Products Containing Potentially Hazardous Materials Consumed in California Households in 1985.

Material	Amount (million pounds)
Pesticide	15.0
Lighter Fluid	3.8
Scouring Cleanser	24.3
Household Polish	
Automotive	2.0
Furniture	2.3
Floor	27.8
Shoe	2.0
Leather	4.4
Metal	0.8
Other	0.4
Dishwashing liquid	137.5
Dishwashing powder	96.9
Laundry liquid	100.0
Laundry powder	353.9
Liquid cleaners	na
Pool Chemicals	13.5
Adhesives and Sealants	34.7
Batteries	25.0 ^a
Motor oil	200.0 ^b
Pharmaceuticals	
(active ingredients)	11.8
Architectural Coatings	na

^a Assumes that the 225 million batteries estimated as sold in California were all D cells weighing 50 g each.

^b An independent estimate of the amount of motor oil could not be obtained, so a California Waste Management Board estimate (1986a) of 30 million gallons handled by "backyard mechanics" was used. This was converted to pounds using a density of 6.7 pounds per gallon

Sources:

Broxterman, 1986
 Storck, 1986
 Chemical Marketing Reporter, 1986
 Jones, 1986
 U.S. International Trade Commission, 1986
 Supermarket Business, 1983
 Supermarket Business, 1986
 SRI International

Predicted Levels of Hazardous Material in California Refuse from Consumer Products

The generic recipes in Table 4.9 were used with the product consumption values from Table 4.10 to develop a bounding estimate of the concentration of hazardous or potentially hazardous materials in domestic refuse. Along with the recipes, the basis of the estimates was an assumption as to the percentage of the product that is unused. The assumed percentage for most products was 1% which reflects the small amounts of material found in discarded containers in the preliminary samples analyzed by SRI. Pesticides, polishes, and adhesives were assumed to be discarded in larger amounts because they are retained in the household for long periods of time - long enough to be discarded before complete consumption because of concern for activity or effectiveness. 100% of batteries were assumed to be discarded. Some waste motor oil from "backyard mechanics" was assumed to be recycled. A publication by the California Waste Management Board (1982) on oil recycling indicated that 40% of all waste oil in the state is recycled. If the same percentage is applied to waste oil from "backyard mechanics", 60% could end up in the refuse stream. In actual fact some of this material which is not recycled will be poured down drains and sewers rather than being placed in the refuse stream. Two estimates, (U.S. EPA, 1983 and Geyer and Glendening, 1979) indicated that nationwide, 22 percent, and in Oregon, 17 percent, of waste oil from "backyard mechanics" finds its way into municipal refuse. A value of 20% will be used until a better estimate for California can be developed. When consumption figures for architectural coatings are developed, a 10% discard rate will be assumed.

The bounding estimate of material amounts was converted into a bounding estimate of concentration using a California Waste Management Board (1986b) estimate that Californians generate 31 million tons of refuse annually. The results are shown in Table 4.11. The number in parentheses by each product is the percentage of the product that was assumed to be discarded. The household polish value represents the sum of the seven different polish products identified in Table 4.9.

Table 4.11: Estimated Total Amount of "Hazardous" Materials in California Refuse from Waste Consumer Products in 1985 (million pounds)

Consumer Product	"Hazardous Material"							
	- Chlor	Organic non-C	- Other	Alkali	Oxid	Pest	Adhes	Battery
Pesticide (10%)		1.4				.1		
Lighter fluid (1%)		.04						
Scouring Cleansers (1%)				0.04	0.01			
Household Polish (10%)		0.35	0.50					
Dishwashing Liquid (1%)			0.07					
Dishwashing Powder (1%)				0.58				
Laundry liquid (1%)			0.09	0.15				
Laundry Powder (1%)				1.06				
Pool Chemicals (1%)					0.14			
Adhesives and Sealants (10%)							3.5	
Anti-freeze (1%)			1.57					
Batteries (100%)								25
Total		1.79	2.23	1.83	0.15	0.1	3.5	25
concentration (ppm)*		28	36	29	2	2	56	400

* Assuming that the total domestic refuse is 31 million ton per year as reported by the California Waste Management Board (1986b).

Source: SRI International

Not shown in the table is the estimated waste oil concentration of 645 ppm. The total active ingredient level from pharmaceuticals is predicted to be no more than 2 ppm. There are several observations that must be made about these bounding estimates. First, except for batteries and waste oil, the estimated concentrations are low. Second, since the concentrations result from a chain of assumptions, it is possible to imagine correct estimates that are larger by a factor of two or three. The one exception to this is probably the batteries, which is believed to be a high estimate because many of the batteries sold are "A" and "C" cells which weigh less than "D" cells. Additional factors that could be addressed include the fact that the CWMB estimate for refuse includes domestic, commercial, and industrial, and is therefore too large. (As an aside, it should be pointed out that industrial and commercial wastes will contain materials that were not included at all in the bounding estimates. Industrial and commercial refuse is expected to contain larger amounts of solvents, other organics, and alkali.) The amount of chlorinated and non-chlorinated organics is unexpectedly low. This reflects the absence of paint, paint remover, and related solvent products in the bounding estimates. Pigments are also missing because paints are not included.

Even with a factor of two or three increase in concentrations, lighter fluid and other fuels do not make a significant contribution. If the lighter fluid is eliminated from consideration, as well as the detergents which are predominantly alkali, and the cleansers and pool chemicals which contain oxidants, then the bounding estimate and the major consumer product sources of hazardous material shown in Table 4.12 results.

It is interesting to compare the predicted concentrations for the organics to the concentration limits allowed by the treatability standards promulgated by the U.S. EPA (U.S. Environmental Protection Agency, 1986b) for solid residues from solvent processing. The treatability standards imply concentration limits such as 7 ppm for toluene, 2.5 ppm for dichlorobenzene, 19 ppm for dichloromethane, and 1.8 ppm for trichloroethylene. Solids from industrial operations with

concentrations below these limits can be disposed of in hazardous waste landfills. Solids with concentrations above these limits cannot be disposed of in any kind of landfill without first obtaining a special waiver. Based on EPA estimates of waste volume, if the average solid residue contained 10 ppm of each regulated solvent, the regulations would result in land disposal of 0.2 to 0.3 million pounds of each regulated solvent annually.

The total non-chlorinated organic and other organic materials in California domestic refuse are made up of many individual compounds, which means that the refuse would satisfy the concentration limits for land disposal. The average municipal solid waste landfill does not, however, satisfy the containment design requirements of a hazardous waste landfill.

Table 4.12: Estimated Total Amount of Hazardous Materials in California Refuse from Waste Consumer Products in 1985 (million pounds)

Consumer Product	Hazardous Material						
	--- Chlor	Organic non-C	-- Other	Pest	Adhes	Battery	Oil
Pesticide (10%)		1.4		.1			
Household Polish (10%)		0.35	0.50				
Adhesives and Sealants (10%)					3.5		
Anti-freeze (1%)			1.57				
Waste Oil (20%)							40
Batteries (100%)						25	
Total		1.75	2.07	0.1	3.5	25	40
concentration (ppm)		28	33	2	56	400	645

Comparison of Preliminary Sample Results and Bounding Estimates

The residue amounts in the preliminary samples were transformed into amounts of the chosen hazardous material categories. The levels of alkali and oxidant were included even though they are not recommended for inclusion as a hazardous waste because they provide additional data to confirm or disprove the validity of the prediction method. The results are shown in Table 4.13 and compared to the bounding estimates. The results are comparable. This suggests that the samples are in general typical.

Table 4.13: Estimated Concentration of Hazardous Material in Domestic Refuse -- Winter Samples Compared to Bounding Estimates(ppm)

Material	October	November		Average	Bounding
		Sample 1	Sample 2		
Hydrocarbons					
chlorinated	-	427	-	142	0 ^a
non-chlorinated	9	34	30	24	28 ^b
Other Organics	2	-	25	9	33
Pesticides	-	3	-	1	2
Pigments	-	-	-	-	-
Adhesives and Sealant	-	53	133	62	56
Waste Oil	- ^a	-	-	-	645
Oxidant	1	6	-	2	2
Alkali	2 ^a	67	20	30	29
Batteries	463	2426	287	1057	400

^a Sample was purged of most laundry products and automotive products to eliminate material from a commercial laundromat and a gasoline station.

^b Values do not include material from paints and solvents which are a major source of both chlorinated and non-chlorinated hydrocarbons. The value for non-chlorinated hydrocarbons is due solely to the choice of a generic recipe for household pesticides.

SECTION 5

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CALIFORNIA WASTE MANAGEMENT BOARD

Agenda Item #5

April 21 - 22, 1987

Item:

Consideration of Invitation for Bids (IFB) for Consultant Services to Conduct a Recycling Study.

Key Issues:

- Study will assess potential for recovering aluminum, glass, PET, HDPE, ferrous metals, AB 2020 beverage containers, and paper from the residential and commercial solid waste stream.
- IFB calls for contract not to exceed \$45,000 for a term of six months.
- IFB will be awarded to the lowest qualified bidder.

Background

Government Code Sections 66788-66789.4 charge the Board with providing technical assistance to achieve the Code's goals and fulfill its responsibilities. One means by which the Board fulfills this requirement is to provide information on the level of recycling obtained and obtainable in California. However, much of the data on recycling levels is over six years old and therefore not very useful for current decision-making.

Discussion

Attached is an IFB for the preparation of a report on recycling levels throughout California. The materials to be investigated in the study are--

- | | |
|-------------------------------|---------------------------|
| ● Glass | ● White ledger paper |
| ● Aluminum | ● Colored ledger paper |
| ● Ferrous metal cans | ● Mixed waste paper |
| ● PET containers | ● Computer printout paper |
| ● HDPE containers | ● Newspaper |
| ● Scrap metal | ● Magazines |
| ● AB 2020 beverage containers | ● Corrugated paper |
| | ● Chipboard |

The study requires the following tasks be done:

- Estimation of the availability of recoverable materials in the 12 major waste generating counties in California. These counties are--
 - Los Angeles
 - Orange
 - San Diego
 - Riverside
 - San Bernardino
 - Kern
 - Alameda
 - Contra Costa
 - Santa Clara
 - San Mateo
 - San Francisco
 - Sacramento
- An accounting of the amount of waste currently diverted through materials recovery in each of the selected counties.
- Identification of potentially recoverable materials, such as plastics, which are currently under-recovered in California and determination of the conditions which would need to prevail to increase their recovery.
- Identification of the available secondary materials markets, their capacities, and potential for expansion.
- A literature search of existing studies which provide data on recyclable materials in the solid waste stream in California and on the amounts already being recovered.

The contract developed as a result of the IFB will be for a term of six months with a maximum funding of \$45,000.

This IFB contains a "low bid" selection process, and any contract award made hereunder will be based on the lowest bid, after a threshold evaluation and selection process, by which qualified bidders will be selected. Only those bidders obtaining a score of at least 75 out of 100 points will be considered qualified bidders. The minimum bid requirements and these evaluation criteria are presented in Attachment A of the IFB; the Score Sheet derived from these criteria is presented in Attachment B of the IFB.

Progress payments will be made on a monthly basis, in arrears, based on a monthly invoice and written progress report. Ten (10) percent of each payment will be withheld, to be paid on the satisfactory completion of the contract.

It is anticipated that a contract will be awarded in June, 1987, and shall be completed by January, 1988.

Recommendation:

The Board approve the issuance of the attached IFB for the conduct of a study of recycling in 12 major California waste generating counties.

Attachment:

Invitation for Bids

INVITATION FOR BIDS

STUDY OF RECYCLING

IN CALIFORNIA'S MAJOR WASTE GENERATING COUNTIES

I. Introduction

The California Waste Management Board is the lead State agency responsible for nonhazardous waste management in California. Title 7.3 of the Government Code requires the Board to provide technical assistance to achieve the Code's goals and fulfill the Board's responsibilities. One means by which the Board fulfills this requirement is to provide information on recycling to the Legislature, local governments, and the public. Unfortunately, much of the available information on the level of recycling obtained and obtainable in California is over six years old and therefore not very useful.

Current information on recycling levels and potential would help the Board's staff respond to requests for legislative and recycling program analyses. For example, such information would allow Board staff to evaluate the effect of the beverage container redemption program (Assembly Bill 2020, 1986) on the amount of solid waste going to landfills. If Senate Bill 188 (Alquist), a recycling tax credit bill is enacted, the Board will need baseline recycling information to assist the Legislative Analyst report to the Legislature on the effects of the tax credit. Up-to-date recycling information would also help the Board staff work with local governments and the private sector in planning solid waste management. In particular, such data would enhance the usefulness of existing Board programs, such as the Solid Waste Financial Model computer program.

II. Purpose and General Requirements

The purpose of this Invitation for Bids (IFB) is, through a competitive selection process, to obtain the services of a contractor to assess the potential for recovering selected "recyclables," including AB 2020 beverage containers, from the residential and commercial solid waste stream in twelve (12) counties. The twelve counties are the major waste generating counties in California. The twelve counties are--

- | | |
|------------------|-----------------|
| ● Los Angeles | ● Alameda |
| ● Orange | ● Contra Costa |
| ● San Diego | ● Santa Clara |
| ● Riverside | ● San Mateo |
| ● San Bernardino | ● San Francisco |
| ● Kern | ● Sacramento |

The study will focus on the recycling potential of the following recyclable materials:

- Glass
- Aluminum
- Ferrous metal cans
- PET containers
- HDPE containers
- Scrap metal
- AB 2020 beverage containers
- White ledger paper
- Colored ledger paper
- Mixed waste paper
- Computer printout paper
- Newspaper
- Magazines
- Corrugated paper
- Chipboard

The contractor will provide the Board with a report assessing the potential of these materials for recycling.

III. Small Business Preference

NOTICE TO ALL BIDDERS: Section 14835 et seq. of the California Government Code requires that a five percent preference be given to bidders who qualify as a small business. The rules and regulations of this law, including the definition of a small business for the delivery of services, are contained in Title 2, California Administrative Code, Section 1896 et seq. A copy of the regulations is available upon request from the State Office of Small and Minority Business. To claim the small business preference, which may not exceed \$50,000 for any bid, your firm must have its principal place of business located in California and be verified by the State Office of Small and Minority Business. Questions regarding the preference approval should be directed to that office at (916) 322-7122.

IV. Description of Work

A. Tasks

The bid shall consist of the applicant's response indicating ability to perform the following tasks. For each of the requirements identified below, the applicant must indicate whether or not the requirement can be completely satisfied. If any part cannot be met, the applicant must indicate the reasons why it cannot be met.

1. The successful bidder shall produce several outputs for the Board as described below.

- a. An estimate of the availability of recoverable materials in the 12 major waste generating counties in California.

- b. An accounting of the amount of waste currently diverted through materials recovery in each of the selected counties.

c. An identification of potentially recoverable materials, such as plastics, which are currently under-recovered in California and a determination of the conditions which would need to prevail to increase their recovery.

d. An identification of the available secondary materials markets, their capacities, and potential for expansion.

e. A literature search of existing studies which provide data on recyclable materials in the solid waste stream in California and on the amounts already being recovered.

2. Drafts of a final study report shall be prepared and submitted to Board staff for comments and approval 30 days prior to acceptance of the final report by the Board.

3. The contractor shall supply 200 bound copies of the final report. In addition, a camera ready copy of the report, together with an IBM-compatible computer disk, encoded with the report in a format specified by Board staff, shall be supplied by the contractor upon completion of the contract study.

4. The contractor shall present, in writing, monthly status reports to Board staff and shall meet with Board staff every six (6) weeks to discuss the progress and receive Board comment, unless otherwise specified by the Board.

B. Budget

The Board has budgeted a maximum of \$45,000 for this study, to be allocated from the Board's 1986-87 budget, subject to availability of funds.

C. Term

The term of the agreement for these services shall be for six (6) months beginning June 30, 1987 (or date of approval by the Department of General Services, whichever is later).

V. Minimum Bid Requirements

A. Procedure for Preparing Bid

Bid preparation costs shall not be reimbursed under this contract.

Bids received within the prescribed deadline shall become the property of the Board and all rights to the content therein shall become the property of the Board.

1. Deadline

All bids must be received (NOT POSTMARKED) by no later than 4:00 p.m., on May 25, 1987, and addressed to:

California Waste Management Board
ATTN: Carole Brow, Resource Conservation Division
1020 Ninth Street, Suite 300
Sacramento, CA 95814

Bids received after the above time and date will not be considered and will be returned unopened to the bidder.

2. Format

The bid is comprised of two parts: the bid package by which the Board will determine whether the bidder qualifies as a bidder and The Bid Price and Cost Proposal which the Board will use to select the lowest "qualified" bidder for contract award, subject to the conditions stated in VI and VIII below.

a. Bid Price and Cost Proposal

Bid price and cost information must be prepared by submitting the information requested on Attachment C, Bid Price and Cost Proposal. The Bid Price and Cost Proposal must be placed in a SEPARATE, SEALED ENVELOPE, clearly marked "Bid Price and Cost Proposal." This envelope will not be opened until the bidder has been found to qualify as described in VI B, "Selection Process," below. The bidder should submit one copy of The Bid Price and Cost Proposal.

The State will not reimburse either travel or per diem costs outside of the contract. If travel and per diem costs are a factor to bidders, bids should contain these costs. If such costs are included, bidders must factor travel and per diem costs into the Bid Price and Cost Proposal. The maximum rates allowable are those established in Title 2, California Administrative Code, Sections 599.619 and 599.631 (summarized in Exhibit D of Attachment D, the sample standard contract form attached to this IFB.)

b. Bid Package

Each bid package shall contain, in writing, as a minimum:

(1) Methodology

The methods to be employed by the contractor to accomplish the project objectives must be described in sufficient detail that the Board can evaluate those methods. The proposal must include a work schedule for the project manager and team which shows how the

proposed project fits in the context of other of the contractor's projects. It is anticipated that a contract will be awarded in June, 1987, and completed by January, 1988.

(2) Identification of Prospective Contractor

The bid shall include the name of the firm submitting the bid, its mailing address, telephone number, and the name of an individual to contact if further information is desired.

(3) Nondiscrimination

The prospective contractor must be an Equal Opportunity Employer and must be willing to comply with State Fair Employment Practices. The signature of and date affixed by the prospective contractor on the Cover Letter required by Section VA2b(4), below, shall constitute a certification under penalty of perjury under the laws of the State of California that the bidder has, unless exempted, complied with the nondiscrimination program requirements of Government Code Section 12990, and Title 2, California Administrative Code, Section 8103.

(4) Signed Cover Letter

A cover letter, which shall be considered an integral part of the bid, shall be signed by an individual(s) who is(are) authorized to bind the bidder contractually. This cover letter must indicate the title or position which the signer holds in the bidder's firm. The letter shall contain a statement to the effect that the bid is a firm and irrevocable offer for a 90-day period. The bid shall also provide the following: name, title, address, and telephone number of individuals with authority to negotiate on behalf of and contractually bind the company. This letter, as required by the paragraph VA2b(3), above, constitutes certification by the bidder, under penalty of perjury, that the bidder complies with the California State Nondiscrimination Program requirements. An unsigned bid, or one signed by an individual not authorized to bind the bidder shall be rejected.

(5) Small Business Preference

If the bidder is claiming the Small Business Preference, he or she must clearly state in the Cover Letter required in subparagraph VA2b(4), above, that he or she is claiming the preference. The bidder must also furnish the Small Business Certification Number.

(6) Conflict of Interest

The prospective contractor shall disclose any present or prior financial, business, or other relationship with the California Waste Management Board that may have an impact upon the outcome of the project. The prospective contractor shall also list current clients subject to any discretionary action by the Board, or who may have a financial interest in the policies and programs of the Board.

(7) Experience

A statement describing the bidder's experience must be provided. To qualify, a bidder must have a minimum of three years experience with projects of similar nature and complexity in technical, engineering, scientific or environmental regulatory areas.

(8) Samples of Written Work

Each bidder must submit one (1) sample of a report written by the bidder for a study conducted by the bidder in the subject areas specified in subparagraph VA2b(7), above.

(9) Client References

Each bid shall include a minimum of three client references which attest to the bidder's qualifications to conduct a study of recycling and to produce a report of the results of such a study. A summary statement for each assignment shall be provided. The references shall include the name and telephone number of a contact person who can be interviewed regarding the effectiveness of the proposer's personnel and ability to complete projects on time. Negative responses from references may be cause for rejection of the bid.

3. Copies

Fifteen (15) copies of the entire bid package must be submitted in a sealed envelope marked with the bidder's name and address and the following statement:

"IFB -- DO NOT OPEN UNTIL 4:00 P.M., MAY 25, 1987"

In addition, one unbound, reproducible copy shall be provided and clearly marked "MASTER".

Only one copy of the Bid Price and Cost Proposal needs to be provided.

VI. Evaluation and Selection

A. Failure to Fulfill Minimum Bid Requirements

All bids will be reviewed to determine which bids meet the Minimum Bid Requirements contained in Section V. Failure to meet or demonstrate meeting the Minimum Bid Requirements will be grounds for rejection without further consideration. The State may reject any bid if it is conditional, incomplete or contains irregularities. The State may waive an immaterial deviation in a bid. The State's waiver of an immaterial defect shall in no way modify the IFB documents, or excuse the bidder from full compliance with the contract requirements if the bidder is awarded the contract. Failure to clearly state in the Cover Letter that the bidder is claiming the Small Business Preference will result in the Bidder not being given the preference.

B. Selection Process

This IFB contains a "low bid" selection process. The process begins with a threshold evaluation by which qualified bidders will be selected. Only those bidders obtaining a score of at least 75 out of 100 points will be considered qualified bidders. The minimum bid requirements and the evaluation criteria are presented in Attachment A. The Bid Rating Sheet derived from these criteria is presented in Attachment B. The contract award made hereunder will be based on the lowest bid among the qualified bidders. Pursuant to 2 CAC 1896 et seq., a bidder who is certified as a Small Business will be granted a preference consisting of 5 percent of the lowest responsible bid, if that low bid has been submitted by a bidder who is not certified as a Small Business. If, after deduction of the 5 percent preference from a Small Business Bidder's bid, the bid is equal to or less than the lowest bid, the bid shall be awarded to the Small Business.

1. Interview for Clarification

Bidders who meet the Minimum Bid Requirements set forth in Section V., above, may be asked to present themselves for an interview with staff or Board Members to clarify their bids. This interview may occur at any time during the bid evaluation process. The purpose of this interview will be for clarification only; no bidder will be allowed to alter his or her bid or add new information. Any attempt on the part of the bidder to do so will result in the disqualification of that bidder.

2. Award of Contract

SEPARATE sealed envelopes, containing the Bid Price and Cost Proposal, will be opened for those proposals meeting the Minimum Bid Requirements, stated above. The contract will then be awarded to the lowest qualified bidder.

Consideration will be made for small business preference as stated above.

3. Notice of Award

Notice of the proposed contract award will be posted in the Board's Sacramento offices for at least five business days, beginning June 18, 1987. The award will be deemed final and the contract will be executed on or after the sixth business day after the above date.

4. Confidential Information

Prior to award of the contract, all bids will be designated "confidential" to the extent permitted by the California Public Records Act (Government Code Section 6250 et seq.). After award of the contract, copies of all responses and evaluations will be regarded as public records and will be available for review by the public at the Board's offices. Any bid which contains language purporting to render all or part of the bid confidential shall be regarded as non-responsive to the IFB, and the bid will be rejected.

VII. Schedule for Award of Contract

April 27, 1987	Advertisement published in State Contracts Register.
May 25, 1987	Bids must be received by 4:00 p.m. Bids will be opened and evaluation will begin.
June 18, 1987	Determination of lowest responsible bidder. Posting of award of contract.
June 26, 1987	Award of contract final. (Sixth business day from posting date)

VIII. Limitations

A. Amendments

The State reserves the right to amend the IFB by addendum prior to the final date of bid submission.

B. Information

All information obtained or produced during the course of work shall be made available to the Board for its use as it may so determine.

C. Commitment

The IFB does not commit the State of California or any of its agencies, departments or divisions to award a contract, to pay any costs incurred in preparation of a bid responding to this IFB, or to procure or contract for services or supplies.

The Board reserves the right to accept or reject any or all bids received as a result of this IFB, to negotiate with any qualified source, or to cancel in part or in its entirety this IFB, if it is in the best interests of the State of California to do so.

If the selected bidder fails to negotiate a satisfactory contract with the Board within a reasonable time after the award, the Board may offer to negotiate with the next runner-up, without further advertising, issuance of another IFB, or evaluation of bidders. The Chief Executive Officer shall determine when negotiations have broken down with the first selected bidder, and whether to offer to negotiate with the next runner-up. This procedure shall apply to negotiations with lower-ranked runners-up in order of original ranking, if negotiations cannot be successfully completed with any bidder.

D. Termination

The Board has the authority and express right to terminate any contract awarded to the contractor/s pursuant to the IFB at any time during the term of the contract for any reason or if the Board finds that the contractor's work is negligent, not satisfactory, or not in accordance with the agreed upon work program. In the event of termination the contractor shall be entitled to payment for approved costs incurred prior to the effective date of termination.

IX. Contract Terms and Conditions

A. State Contract Terms

Attachment D is a copy of the major contract terms included in contracts executed by the State of California and this agency. The actual final terms of the contract to be awarded pursuant to this IFB may differ from the example so that the contract appropriately reflects the service and work to be purchased by the Board. Actual cost items may exceed or be less than projected in Attachment C, Bid Price and Cost Proposal.

B. Start of Work

Once the final contract award is made, work shall not begin until the contract is approved by the Department of General Services.

C. Reporting Requirements

Written progress reports shall be submitted monthly, summarizing progress achieved during the preceding month and planned activities for the current month. Progress reports shall be submitted by the fifth working day of the month.

Meetings with Board staff will be scheduled each six week period.

D. Contractor Evaluation

Within thirty (30) days after completion of work under this agreement the contractor's performance shall be evaluated by the Board and a report filed with the Department of General Services.

E. Payment

Progress payments will be made on a monthly basis, in arrears, based on a monthly invoice and written progress report which must be received with the invoice. The written progress report must be judged acceptable by Board staff before payment will be authorized. Ten (10) percent of each payment will be withheld, to be paid on the satisfactory completion of the contract.

STUDY OF RECYCLING IN CALIFORNIA

MINIMUM BID REQUIREMENTS AND EVALUATION CRITERIA

MINIMUM BID REQUIREMENTS

1. Deadline
2. Format
 - a. Bid Price and Cost Proposal
 - b. Bid Package
3. Written Requirements for bid package
 - a. Methodology
 - b. Identification of Prospective Contractor
 - c. Nondiscrimination Certification
 - d. Binding Signature and Cover Letter
 - e. Small Business Certification (if requesting preference)
 - f. Statement of Conflict of Interest
 - g. Minimum of three years related experience
 - h. Sample of a report from similar project
 - i. Reference from 3 clients
4. Required Number of Copies

EVALUATION CRITERIA

All bids meeting the Minimum Bid Requirements will be evaluated and scored in accordance with the procedures and methods adopted by the Board, using the criteria listed below and incorporated in the Bid Rating Sheet, Attachment B. Those bids receiving qualifying scores will be opened to determine the lowest bid.

The prospective contractor shall address in writing the following items:

1. Resources
 - a. Management The prospective contractor shall designate by name the project manager to be employed. The experience of the project manager must be discussed in writing in the bid. The selected contractor shall not substitute the project manager without prior approval of the Board.

b. Personnel The prospective contractor shall describe the qualifications of all professional personnel to be employed, including a summary of similar work performed, a resume for each professional, a statement indicating how many hours each professional will be assigned to the project, and what tasks each professional will perform. The contractor shall not cause members of the project team to be substituted without prior approval of the Board.

c. Subcontracts If any subcontractors are to be used, the prospective contractor must submit a description of each person or firm, the work to be done by each subcontractor, the cost of the work, and a sample of similar work completed by the proposed subcontractor. All subcontracts must be approved by the Board, and no work may be subcontracted without the prior approval of the Board. In addition, the prospective contractor must indicate the cost of any subcontracts and any markup that the prospective contractor plans to take on subcontracts.

2. Methodology

The prospective contractor's responsiveness to the IFB and overall approach to the Board's project will be evaluated, based on the techniques proposed to accomplish the project objectives. The prospective contractor shall describe the overall approach to the project, specific techniques that will be used, and specific administrative and operational management expertise that will be employed. The prospective contractor's capability to successfully complete the Board's project will be evaluated based on the proposed work schedule and allocation of staff resources.

3. Qualifications

The prospective contractor's qualifications for the Board's project will be evaluated, based on the individual qualifications and experience of the project manager, the project team and any proposed subcontractors.

4. Past Work

The prospective contractor's past work record will be reviewed to determine the success of past projects and any related work record. The exhibits submitted by the prospective contractor to illustrate the ability to produce the materials desired by the Board will be evaluated based on quality.

The prospective contractor shall provide references from three (3) clients for whom the prospective contractor has performed technical and management assignments of similar complexity to that proposed in this request. A summary statement for each assignment shall be provided. The references shall include the name and telephone number of a contact person who can be interviewed regarding the effectiveness of the proposer's personnel and ability to complete projects on time. Negative responses from references may be cause for rejection of the bid.

Bid Rating Sheet
Study of Recycling in Major Waste Generating Counties

I. Resources

Information on management, personnel, and subcontracts is provided as required by the Evaluation Criteria section of this IFB.	Maximum 10 points
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II. Methodology

Contractor's responsiveness to the IFB and overall approach; description of approach, techniques, administrative and operational expertise; schedule.	Maximum 40 points
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III. Qualifications

Qualifications of key professional and technical staff and ability to conduct the necessary research with proficiency and accuracy and without omission. Direct technical supervisors and key personnel must be named and resumes of their professional background and experience must be submitted.	Maximum 20 points
------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------	----------------------

1. Project Manager (10 points)
2. Project Team & subcontractors (10 points)

IV. Past Work

The prospective contractor's past work record will be reviewed to determine the success of past projects and any related work record. The exhibits submitted by the prospective contractor to illustrate the ability to produce the materials desired by the Board will be evaluated based on quality. References may be consulted.	Maximum 30 points
-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------	----------------------

BID PRICE AND COST PROPOSAL RECYCLING STUDY

Submit this form in a separate, sealed envelop, marked "Bid Price and Cost Proposal". The total bid price and cost proposal will not necessarily be the amount of the contract. However, the rates quoted by the successful bidder will become part of the final contract and may not be changed during the term of the contract.

The items and tasks in the left-hand column are abbreviated from Section IV A, "Tasks," in the Invitation for Bids. Bidders should examine Section IV A and calculate rates from the tasks described there and not from the abbreviated version shown below.

1. Outputs

Recoverable material availability estimates.	\$ _____
Current recovery level estimates.	\$ _____
Under-recovered materials analysis.	\$ _____
Secondary materials markets analysis.	\$ _____
Literature search.	\$ _____
TOTAL	\$ _____

2. Study report preparation

Collect and analyze data.	\$ _____
Submit draft report & respond to comments.	\$ _____
Prepare final report for Board approval.	\$ _____
TOTAL	\$ _____

3. Final report publication

200 bound copies.	\$ _____
1 Camera-ready copy.	\$ _____
1 IBM-compatible computer disk copy.	\$ _____
TOTAL	\$ _____

4. Administrative

Overhead.	\$ _____
Monthly status reports.	\$ _____
Meetings with Board staff.	\$ _____
TOTAL	\$ _____

TOTAL BID PRICE

\$ _____

CALIFORNIA WASTE MANAGEMENT BOARD

Agenda Item # 6

April 21-22, 1987

Item:

Consideration of award of Local Enforcement Agency Training Contract.

Key Issues:

- o An Invitation for Bids (IFB) was issued for LEA training seminars.
- o The IFB calls for the Board to determine if proposals meet minimum requirements, after which the Board will consider awarding the contract by a low bid selection process.
- o Two bids were received.

Background:

At the January 22-23, 1987 meeting, the Board directed staff to issue an Invitation for Bids to produce four, two-day LEA training seminars. The successful bidder (contractor) shall make arrangements for the seminars, produce a manual and conduct a one day seminar on special wastes. Board staff will conduct a second one-day seminar on monitoring and enforcement. The specific tasks and products required and stated in this IFB are shown on Attachment I.

The contract developed as a result of the IFB is for a term of one year with a maximum funding of \$48,000.

The IFB contains a "low bid" selection process. Proposals are subject to a threshold evaluation and selection process by staff to determine whether they meet the minimum requirements specified in the IFB. Evaluation was performed by staff and the proposals were determined to meet the minimum requirements. Attachment II displays the determination of minimum requirements by staff.

The Bid Price and Cost Proposals of the qualifying prospective contractors are to be opened once it has been determined by the Board that minimum requirements have been met. The Board may then consider whether to award the contract to the possessor of the low bid.

The Board shall retain the option to reassign the contract should the performance of the contractor prove unsatisfactory.

Board Options:

Option #1:

Accept staff recommendation that the proposals meet the minimum requirements. Open the bids and award the contract to the possessor of the low bid.

Option #2:

Accept staff recommendation that proposals meet the minimum requirements. Open bids, examine bids, but decide not to award a contract based on this IFB. Direct staff to reissue the IFB. (Note: Reissue of the IFB may result in the loss of training monies for FY 1986-87 due to contract processing time constraints.)

Option #3:

Not accept staff recommendation that the proposals meet the minimum requirements. Direct staff to reissue the IFB. (Please see note, Option #2.)

Recommendation:

Staff recommends the Board to accept option #1.

Attachment I
LEA TRAINING SEMINAR SERIES

Tasks

The successful bidder shall produce several outputs for the Board as described below:

1. Develop, organize produce, and present a series of seminars to be given in the Northern, Southern, Central, and Bay areas of the state. The seminars shall be of 2 days duration, the location and dates to be approved by Board staff at least 90 days in advance of the proposed seminar dates. The first day of the seminar, addressing the subject of monitoring and enforcement, will be planned and taught by Board staff.
2. The contractor shall produce an information and pre-registration flyer and distribute this flyer to the CWMB mailing list and all LEAs. Flyers must include directions to meeting places and information on parking.
3. The contractor shall secure (subject to approval) facilities for each of the four 2-day seminars. Costs for approved rooms will be paid by the Board.
4. The contractor shall provide certificates of attendance for all Local Enforcement Agency personnel attending the seminars.
5. The contractor shall devise a pro- and post-seminar test to be approved by Board staff and administer the test before and at the conclusion of each of the four sets of seminars.
6. The contractor shall provide a register of seminar participants, including the participant's name, organization, address, and telephone number, for each of the seminars.
7. The contractor shall provide and administer a seminar evaluation and relay this information to the Board in a written report which includes the original evaluation forms.
8. Compile a special waste handling manual including applicable state laws and Board policies, specific approaches to the more common special waste problems, and strategies to approach diverse special waste problems.
9. Drafts of the manual shall be prepared and submitted to Board staff for comments and approval 60 days before the seminar dates. A staff approved final version of the manual must be produced 30 days prior to the date of the first seminar.
10. The contractor shall supply 200 bound copies of the manual. In addition, a camera ready copy of the manual, together with an IBM compatible computer disk, encoded with the manual in a format

specified by Board staff, shall be supplied by the contractor upon completion of the seminar series.

11. The contractor shall present, in writing, monthly status reports to Board staff and meet with Board staff every 6 weeks to discuss their progress and receive Board comment.

12. The contractor shall present the entire special wastes seminar to Board staff for review and comment 30 days prior to the first date of the seminar series.

13. One two-day seminal session shall be recorded on video tape together with a separate audio tape and given to the Board upon completion of the contract, OR a typed transcript of the audio portion of the sessions shall be provided to the Board.

14. The contractor shall provide one copy of all slides and other visual aids used in the special wastes presentation, to be delivered to Board staff within one month after the final seminar.

Attachment II
Determination of Minimum Requirements

Requirement	Eljumaily Butler Associates	Russell Resources Inc.
Deadline for receipt	yes	yes
Format and Content	yes*	yes*
Identification of Prospective Contractor	yes	yes
Nondiscrimination Clause	yes	yes
Signature	yes	yes
Copies	yes	yes
Experience	yes	yes
Samples of Written Work	yes	yes
Client References	yes	yes

* Part of Format and Content concerns the Bid Price and Cost Proposal and cannot be evaluated until the bids have been opened. All other Format and Content concerns have been evaluated and found to meet the minimum requirements.

CALIFORNIA WASTE MANAGEMENT BOARD

Resolution 87-20

April 21-22, 1987

WHEREAS, An Invitation for Bids was issued for LEA training seminars; and

WHEREAS, The IFB called for the Board to determine if proposals meet minimum requirements; and

WHEREAS, The Board finds that the two Bid Proposals submitted meet the minimum requirements; and

WHEREAS, The Board considered awarding the contract by a low bid selection process; and

WHEREAS, The Board instructed the Bids be opened; and

WHEREAS, The low bid was submitted by _____;

NOW THEREFORE BE IT RESOLVED; that the Executive Officer is authorized to negotiate and execute a contract with _____ for the purpose of producing LEA training seminars and a manual as specified in the IFB for the amount of _____ as bid.

CERTIFICATION

The undersigned Chief Executive Officer of the California Waste Management Board does hereby certify that the foregoing is a full, true and correct copy of a resolution duly and regularly adopted at a meeting of the California Waste Management Board held on April 21-22, 1987.

Dated:

George T. Eowan
Chief Executive Officer

CALIFORNIA WASTE MANAGEMENT BOARD

AGENDA ITEM # 7

APRIL 21 -22, 1987

ITEM:

Consideration of Approval of the Final Report of the Advisory Committee on Significant Change

KEY ISSUES:

- o Committee met six times over eighteen months
- o Twelve "Possible Indicators" of significant change
- o Report highlights to be included in LEA procedural manual

BACKGROUND:

At the October 1985 Board meeting, Chairman Roodzant convened a panel of two Board members and four other Californians with a vested interest in the management of solid waste to identify the best method for determining when a "significant change" has occurred to an existing solid waste facility permit.

The Advisory Committee on Significant Change was comprised of the following persons:

Les Brown	Committee Chairman and Member, California Waste Management Board
Richard P. Stevens	Member, California Waste Management Board
Vincent C. Taormina	President, Anaheim Disposal Company
Richard A. Pantages	Program Director, Alameda County Health Care Services Agency
Cynthia Q. Sievers	Solid Waste Coordinator, County of Santa Clara
Selby J. Fermer	Private Citizen, City of Sacramento

A high level of input from interested parties was sought during the deliberations of the various draft reports. Over six hundred solid waste facility operators and Local Enforcement Agencies were mailed draft versions of the Committee Report to provide comments to the Committee. The comments were evaluated by the Committee and incorporated into the Final Report as deemed appropriate by the Committee.

The Committee examined various methods of providing objective measurement to determine when a "significant change" had occurred. Several of these methods are described below:

- Numeric Value Assignment - Changes beyond a certain numeric value [e.g., change of (X) %].
- Significance Factors - A list of factors and narrative descriptions.
- Significance Scale - Scale of significance [e.g. (1) = Insignificant; (10) = Very Significant].
- Use of CEQA - Utilize the California Environmental Quality Act as the evaluation tool for "significant change."
- Environmental Harm Determinant - Similar to CEQA, but tailored specifically to solid waste facilities.

After lengthy discussions of each approach, none was found to be a universal answer. "Significant change" determination is a subjective evaluation process and is the primary responsibility of the CEQA. Variations in conditions throughout the state dictate the need for latitude at the local level to allow their officials the ability to "factor in" local conditions.

The Committee reached the conclusion that the listing of "Possible Indicators" of "significant change" identified in the report will give appropriate guidance to LEA's in their evaluation of a facility permit. The general nature of the guidance will not limit the ability of that LEA to consider local conditions when making a determination of "significant change."

DISCUSSION:

From the outset, it was apparent to the members of the Committee that their task would be difficult. "Significant change" as a concept, does not lend itself well to quantification or definition. It compares more favorably more subjective qualities that elude specific definition, yet each person knows what the concept means.

The Committee reinforced the current distribution of authority and responsibility for solid waste management in California. The authority to make a finding of "significant change" is the primary purview of the locally-designated, state-approved Local Enforcement Agency. The state role is one of concurrence or nonconcurrence in that finding. Along with the authority, there is also a local responsibility for the LEA to provide sufficient documentation and evidence to facilitate a state finding of concurrence with the local decision.

The listing of "Potential Indicators" for "significant change" was determined to be the most effective way to focus the attention of the LEA to specific aspects of the solid waste facility operation, without restricting the ability of LEA to consider local conditions. Versions of the report that included descriptive narratives along with the indicators were found to be too restrictive for equitable application throughout the state.

To broadly disseminate the information contained in the report, the Committee recommended that the major points of the report be excerpted and included in a Local Enforcement Agency Procedural Manual that is currently under development by the Enforcement Division of the Board.

The Final Report of the Advisory Committee on Significant Change contains valuable information that should assist the LEA in making the subjective decisions that accompany a determination of "significant change." The report has all pertinent laws and regulations in one source. It emphasizes the critical importance of intra-agency and inter-agency (sic) coordination and cooperation to avoid unwanted delay and conflict. The report lays out the logical steps to follow during the "significant change" evaluation process. Finally, the report has raised the visibility of the issue and brought about focussed discussion about the subject. This activity alone has improved understanding of the subject and has increased communications between and among all interested parties.

RECOMMENDATION:

The Board approve the Final Report of the Advisory Committee on Significant Change and direct staff to include the major recommendations of the Report into the Local Enforcement Agency Procedural Manual.

ATTACHMENT:

Final Report of the Advisory Committee on Significant Change

Report of the Solid Waste Advisory Committee on
Significant Change

CALIFORNIA WASTE MANAGEMENT BOARD

APRIL 1987

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PREFACE

Solid waste facility permits specify, with varying consistency, the conditions that dictate how a facility should be operated. To determine that the operating conditions specified in an existing permit are no longer applicable to the current operating conditions prompts the need to revise the permit. This is what is referred to as a finding of "significant change." This decision deserves special consideration, since permit revisions involve a series of complex, costly, and time consuming actions for public and private operators, local government officials, and state regulatory staff.

Current law places primary solid waste management responsibility with local government, under a system of state-designated Local Enforcement Agencies (LEA's) that have the authority and responsibility to make determinations of "significant change" to solid waste facility permits, when appropriate. The California Waste Management Board (CWMB), the state oversight agency, has the authority and responsibility to either concur or not concur with these local decisions, based on the general guidance of the Government Code and California Administrative Code. This report discusses the problems involved in making determinations of "significant change" and recommends general guidance from the CWMB to assist LEA's in making these decisions.

The decision for a finding of "significant change" is subjective. Although subjective, a reasoned, logical approach, based on the collection of all pertinent information and thorough evaluation of data, will assist the LEA to make the determination that causes the least administrative burden, while exercising the LEA's designated authority and responsibility to protect the public and environment from potential harm. The purpose of this report is to assist the LEA in this evaluation process.

Les Brown,
Member, California Waste Management Board
Chairman, Significant Change Advisory Committee

SUMMARY OF KEY POINTS

o The Local Enforcement Agency, designated by the local governing body and approved by the California Waste Management Board, has the **AUTHORITY** and **RESPONSIBILITY** to make local determinations of "significant change."

Authority

In conjunction with appropriate local and state agencies, perform a review of the existing permit and determine whether a "significant change" has occurred.

Responsibility

Provide sufficient evidence to substantiate the local finding of whether a "significant change" has occurred. Provide the CWMB with a written copy of the action taken at the local level.

o The California Waste Management Board has developed a list of twelve areas of specific concern that should be carefully evaluated by the LEA to determine if a "significant change" has occurred. These areas of concern are to be evaluated as possible indicators for evaluation of "significant change." The list does not limit the responsibility for a solid waste facility operator to comply with any requirement established under the CEQA.

o The information contained in this report is applicable to existing facilities only. The use is appropriate during the five year review of a solid waste facility permit or when changes in the operation of a facility are brought to the attention of the LEA.

o The information in this report is recommended for inclusion in a Local Enforcement Agency Procedural Manual to assist LEAs in all aspects of the successful performance of their function.

o The guidance provided in this report is advisory in nature. As such, the information is provided for the assistance of LEAs and may be utilized to the extent that it assists in the determination of "significant change" to operating conditions in existing solid waste facility permits.

INTRODUCTION

At the October 1985 Board meeting, Chairman Sherman E. Roodzant convened a panel of two Board members and four other Californians with expertise in the management of solid waste to identify the best method to determine when a "significant change" to an existing solid waste facility had occurred.

The Advisory Committee on Significant Change was comprised of the following Board members and California citizens:

Les Brown.....Committee Chairman and Member,
California Waste Management Board

Richard P. Stevens.....Member, California Waste Management Board

Vincent C. Taormina.....President, Anaheim Disposal Company

Richard A. Pantages.....Program Director, Alameda County Health
Care Services Agency

Cynthia Q. Sievers.....Solid Waste Coordinator, County of
Santa Clara

Selby J. Fermer.....Private Citizen, City of Sacramento

The Final Report of the Advisory Committee was submitted to the California Waste Management Board at their April 1987 meeting for review and appropriate action.

It is the recommendation of the Committee that the guidelines embodied in this report be incorporated into a Local Enforcement Agency Procedural Manual, currently under development by the Board. This manual will be designed to thoroughly address the responsibilities of the Local Enforcement Agency and provide vital assistance to local regulators in the execution of their duties in the protection of public health and the environment.

BACKGROUND

The difficulty of the task at hand.....defining what "significant change" means.....was indicated by the six meetings of the Advisory Committee over an 18 month period.

Throughout this period, a high level of input from all interested parties was sought to provide a document that would serve a useful purpose to both the local regulators and the regulated community. Draft versions of the document were distributed to over 100 Local Enforcement Agencies and 500 facility owners and operators, before the final document was completed. Written comments from these groups have contributed to the formulation of the Final Report.

The Committee examined various methods of providing objective measurement to determine when a "significant change" to an existing permit had occurred. Several of these methods are briefly described in the following:

- Numeric Value Assignment** - Changes beyond a certain prescribed numeric value (e.g., increase in volume of waste received by X% or increase by X number of trucks).
- Significant Factors** - A list of Significant Factors was developed along with descriptive narratives to assist in the interpretation of each factor.
- Significance Scale** - A scale of relative significance was considered [e.g., (1) = Insignificant; (10) = Significant] to assist in making an evaluation of potential "significant changes."
- Use of the CEQA Process** - Each potential "significant change" would be evaluated by use of the Initial Study checklist to determine if an environmental mitigation would be necessary.
- Environmental Harm Determinant** - Similar to the CEQA process, but tailored to solid waste facilities, the potential for environmental harm would become the indicator of "significant change."

After lengthy discussions of each proposal, no one method was found to provide an indicator for objective measurement. Variations in conditions throughout the state, coupled with the desire to avoid restrictive guidelines, prompted the Committee to recommend "liberal" guidelines that identify possible indicators of "significant change," while reinforcing the current authority structure and responsibility for determination of "significant change" that rests with local government.

GOVERNMENT CODE REFERENCES AND CALIFORNIA ADMINISTRATIVE CODE REGULATIONS

The following references to the Government Code and the California Administrative Code are presented for the reference of LEAs to assist in the evaluation and determination of "significant change." Such statutory references, in conjunction with assistance from other local agencies and appropriate state agencies, can make the job of interpretation of "significant change" a more manageable task.

The Government Code Sections 66796.30, (a) and (b), require that each solid waste facility have a permit to operate. The heart of the permit is a list of conditions which dictate how the facility is to be run. According to the California Administrative Code (CAC), these conditions specify the design and operation by which adverse environmental effects of the facility will be controlled:

"...The permit shall contain such conditions as are necessary to specify a design and operation for which the applicant has demonstrated in the proceedings before the enforcement agency and the board the ability to control the adverse environmental effects of the facility."

"(1) As used herein, 'design' means the layout of the facility...and other factors that may reasonably be considered a part of the facility's physical configuration.

(2) As used herein, 'operation' means the procedures, personnel, and equipment utilized to receive, handle and dispose of solid wastes and to control the effects of the facility on the environment." [CAC 18208]

The Government Code (GC) prohibits significant changes to facility design or operation which are not reflected in the permit.

"...no operator of a solid waste facility shall make a significant change in the design or operation of any such facility except in conformance with the terms and conditions in a solid waste facilities permit or revised permit issued to such operator. If the operator wishes to modify the operation [or, presumably also, the design] of the solid waste facility, the operator shall file an application for revision of the existing solid waste facilities permit."
[GC 66796.30(e)]

The regulations are clear regarding the actions to be taken in the case of a proposal to make a significant change to a facility's design or operation:

"Any permittee proposing to make a significant change in the design or operation of the facility shall...apply for a revision of the permit." [CAC 18211(a)]

"A change shall be deemed significant for the purposes of this section if and only if it does not conform to the terms and conditions of the permit." [CAC 18211(c)]

If changes are made which are not in conformance with the conditions and terms of the permit, the Local Enforcement Agency (LEA) may take action to suspend, modify, or revoke the permit--

"...after a hearing for cause, including, but not limited to, any of the following:

(1) Intentional or negligent violation of any term or condition contained in the permit."
[GC 66796.33(c)]

Discovery of changes could occur at any time but should certainly occur at the five year review which the LEA conducts for each permit.

"Any solid waste facilities permit issued, modified, or revised under this chapter shall be reviewed and, if necessary, revised at least every five years." [GC 66796.33(d)]

The Government Code provides that the necessities of environmental protection shall guide the requirement for a permit revision by the LEA:

"When issuing, modifying, or revising any solid waste facilities permit, the enforcement agency shall ensure that primary consideration is given to preventing environmental damage and the long-term protection of the environment is the guiding criterion. To achieve these purposes, the enforcement agency may prohibit or condition the handling or disposal of solid waste to protect, rehabilitate, or enhance the environmental quality of the state or to mitigate adverse environmental impacts..." [GC 66796.33(a)]

Based on the above cited laws and regulations, it is clear that both permittee-initiated and LEA-initiated permit revisions depend on a judgement regarding the extent to which adverse environmental effects of the facility design and operation will be controlled after a change has been made to the facility or a change has occurred in the facility's environment. This determination hinges on the meaning given to the term "significant change."

THE FIVE YEAR REVIEW PROCESS

To focus the efforts of the Advisory Committee, the determination of "significant change" was investigated in the context of the five year review of each solid waste facility permit. All new or expanded facility permit applications shall continue to be subject to existing application procedures. The five year permit review is required by California law and completion of the review is the responsibility of the LEA with jurisdiction where the facility is located.

It should be noted that review does not mean revision.

If a facility is operating essentially under the same terms and conditions specified in the current permit, the permit is determined to be in full force and effect until the next five year review occurs or some changes in the facility design, operation, or environment necessitate a permit revision.

The question of permit revision arises when design, operation, or facility environment is not identical to that specified by existing permit terms and conditions. Identification of the "threshold" of change that is "significant" enough to require a revision to the permit is the basic problem being addressed by the Advisory Committee.

THE RELATIONSHIP BETWEEN CEQA AND "SIGNIFICANT CHANGE"

Neither the Board, nor any other agency, can adopt rules, policies, or regulations that circumvent or supplant existing law. The Advisory Committee cannot exempt any solid waste facility from compliance with the laws and regulations established under the California Environmental Quality Act. The Committee does not recommend changes in CEQA law but seeks to clarify the relationship between CEQA and a determination of "significant change."

There are many levels of environmental review under the CEQA process. If there is a question about environmental degradation, the appropriate local agency should evaluate the situation utilizing the procedures established under the CEQA. The California Environmental Quality Act is contained in Division 13 of the Public Resources Code. These guidelines for determination of "significant change" are not intended to supplant the requirements established for protection of environmental quality under CEQA.

"Significant change" is viewed as a concept that is related to environmental quality, but tied specifically to the solid waste facility permit, through statutory references contained in the Government Code and the California Administrative Code. Since the focus of "significant change" is directed to the solid waste facility permit, the guidance presented in this document attempts identify specific areas of concern that should be reviewed by the LEA during a five year permit review.

To reiterate, the CEQA process defines a procedure for assessing and mitigating environmental harm, these guidelines focus on areas of environmental concern most directly related to the operation of a solid waste facility.

SPECIFIC AREAS OF CONCERN FOR DETERMINATIONS OF "SIGNIFICANT CHANGE"

The following twelve areas of concern have been identified by the Advisory Committee for special consideration during a solid waste facility permit review. These twelve areas of concern should serve as possible indicators that a "significant change" to an existing permit condition has occurred. The list is not all-inclusive, nor exclusive of other design and operating aspects of a solid waste facility. The list provides the greatest degree of latitude to the LEA for interpreting "significant change" within the context of the particular site. This latitude is necessary to ensure:

1. That areas of concern are not defined with such specificity as to limit the ability of the LEA to consider site specific variations throughout the state.
2. That the statutory authority currently vested in Local Enforcement Agencies to make local determinations about local health issues is not eroded.

Specific Areas Of Concern

1. CLOSURE OF A FACILITY
2. INCREASE OR DECREASE IN THE VOLUME OF WASTE RECEIVED
VARYING FROM THE PERMITTED TONNAGE
3. CHANGE IN OPERATING HOURS/DAYS
4. CHANGE IN CLOSURE DATE
5. CHANGE IN TYPES AND VOLUMES OF WASTE RECEIVED
6. CHANGE IN EXCAVATION DEPTH OR HEIGHT
7. CHANGE IN PERMITTED AREA
8. CHANGE IN FACILITY DESIGN
9. CHANGE IN SERVICE AREA
10. CHANGE IN FACILITY USER TRAFFIC
11. CHANGE IN SURROUNDING LAND USE
12. CHANGE IN SALVAGE OPERATIONS

THE PROCESS FOR DETERMINATION OF SIGNIFICANT CHANGE

Each local enforcement agency must review each facility permit at least once every five years. The LEA must provide sufficient information to substantiate its local permit review decision (see CAC section 18213). Adequate information is necessary to support a State decision to concur in the local action.

The LEA should utilize the twelve areas of concern identified in the previous section during the permit review. The LEA may want to consult with the local environmental review agency for assistance in analyzing the potential for given facility changes to impact environmental quality. The State can also assist in the review by rendering technical assistance in further clarification of levels of significance for changes under each area of concern.

Should facts lead the LEA to a determination that no "significant change" has occurred to the conditions that are contained in the current facility permit or that no potential for environmental damage exists as a result of an evaluation of facility operations, a finding should be made that the current permit reflects the operating conditions of the facility. In this case, the permit shall be deemed in full force and effect until either the next five year review occurs or changes are made or occur which require a permit revision.

If the LEA finds one or more of the twelve areas of concern that indicate a need for further evaluation, the LEA should work with all appropriate local and state agencies to determine if the change is of a level of significance to require a permit revision. Such a revision should be accomplished in accordance with all existing statutes and regulations prescribed in law.

LOCAL AGENCY JURISDICTION

The authority and responsibility for making a determination of significant change rests with the Local Enforcement Agency. If the LEA determines that significant change is substantiated, then the permit must be revised. The local agency charged with the decisionmaking authority for land uses usually serves as the lead agency in providing the CEQA documentation. The costs for preparation of any necessary environmental documentation would be borne by the operator or owner of the facility.

Both of these activities-- determining whether the permit must be revised and "doing" CEQA, if necessary-- will be facilitated by coordination and communication between and among local agencies. These cooperating agencies should include the local public works department (which usually has jurisdiction over public landfill operations), the local public health department (which usually has oversight of the operation of public and private solid waste facilities, from a public and environmental health perspective), and the local planning department (which usually has land use and environmental review as primary functions). A high degree of coordination between these local agencies will greatly reduce confusion and delay and build improved understanding of the varied aspects of solid waste management.

Several state agencies, or their regional representatives, may also be consulted, if the LEA needs assistance. Besides the California Waste Management Board, the Regional Water Quality Board, the Air Quality Management District, and the Department of Health Services are available to provide assistance.

CALIFORNIA WASTE MANAGEMENT BOARD

AGENDA ITEM # 8

April 21 - 22 1987

ITEM:

Consideration of the approval of the report "Waste-to-Energy Update 1987".

KEY ISSUES:

1. The CWMB is required by Gov. Code Section 66786.3 (SB 1855, 1978) to report annually to the legislature on the status of WTE facilities in California. This report will be the tenth such report.
2. The report contains the results of a survey of WTE project proponents conducted by CWMB staff and covers the status of individual projects, significant activity, landfill gas projects, and legislative trends.

BACKGROUND

In 1978 Senate Bill 1855 (Greene) was passed. Under the bill two million dollars was appropriated to fund initial studies for six WTE projects identified by the Board. The Board was further required to report annually to the legislature on their progress.

In recent years several new projects have progressed to a point where they too are included in the annual report. For this report 33 projects were surveyed; 29 of those were included in the report as active (or at least not comatose), two are built, and two are under construction.

In addition, landfill gas recovery systems have been included in the update. Nearly 80 projects have been or are being developed in California. All but one of the operating projects generate electricity.

A new section of the report is on the changes in state policy towards WTE. Historically, the legislature and regulatory agencies supported WTE as an environmentally acceptable solution to waste disposal problems. Current attitudes are far more critical and efforts are now directed at curtailing development.

RECOMMENDATIONS:

Staff recommends that the Board approve the report for submittal to the California Legislature.

WASTE-TO-ENERGY UPDATE '86

California Waste Management Board

April 1987

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INTRODUCTION

This report on the conversion of solid waste to energy is the 10th annual report to the legislature in response to Gov. Code Section 66786.3 (SB 1855, 1978).

Overview

Nearly 35,000,000 tons of waste are generated by the residents of California each year. Waste can be viewed as our fastest growing resource and sound waste management practice should encourage recovery of resources and energy to the greatest extent feasible.

The two methods of recovering energy from waste which are most often proposed for California are waste-to-energy (WTE) and landfill gas technologies. WTE facilities burn waste to capture energy while landfill gas projects burn the methane gas generated naturally during the decomposition of organic materials.

The combustion of waste to produce energy in carefully engineered and operated waste-to-energy facilities is an important component of future waste management systems. WTE technology has the advantage of considerably reducing the volume of waste requiring landfilling (80 - 85% reduction) while recovering valuable energy (electricity and/or steam). Its primary disadvantage, emission of air pollution, is at least controllable with state-of-the-art air pollution control equipment.

Background

Over the last 30 years, nearly all of California's wastes were landfilled. Due to increased competition over land use, and increased concern about environmental and health effects, the construction, operation, and closure of landfills are coming under increasingly stringent state and federal regulation. Costs of landfilling have risen concomitantly. In the last decade, alternative disposal methods have been explored.

The CWMB has identified several different techniques for waste management, each with different economic, social, and environmental advantages and disadvantages. Integrating several waste management methods rather than relying on any one technology will minimize possible adverse effects. The process of selecting and implementing appropriate disposal technologies for each region is the responsibility of local governmental agencies through the county solid waste management plans.

Through the 1970s and early 80s, resource recovery technologies, including waste-to-energy and landfill gas, enjoyed the benefit of a number of governmental policies and programs which encouraged the development of the technology. Recently, opposition to WTE projects by potential neighbors of proposed sites combined with the scientific controversy over the possible long term health effects of exposure to substances emitted by WTE plants, have caused a reversal of some of the policies. The changing situations in energy pricing, taxation, and financing have reversed other policies. The one thing that has remained constant is that Californians continue to generate millions of tons of waste a year. This report attempts to show the changes in the State's attitude towards how WTE should be regulated, how those changes are reflected in policies carried out by state regulatory agencies, and why the development of policies affecting the technology should be done in a more unified fashion.

In 1976, the legislature passed SB 1395 (Greene), requiring the California Waste Management Board to identify at least one site suitable for a waste-to-energy facility, develop funding sources and a financing plan, prepare construction and operation specifications, and then facilitate the construction and operation of each such project by an appropriate public or private entity. The Board identified six projects and through SB 1855 (1978, Greene), the legislature appropriated two million dollars to fund initial studies for the projects and required annual reports from the Board on their status.

Of the six original projects, one is under construction (SERRF, Long Beach), two are still in development (SANDER, San Diego County and Bay Area Resource Recovery Project, Redwood City) two have been put on hold indefinitely (Alameda Bureau of Electricity and Central Contra Costa), and one (Humboldt Bay, Eureka) has been transformed to a wood waste only project which is operational. In recent years, however, several newer projects have progressed well beyond the original six, and both the encouragement (and discouragement) of waste-to-energy development in California has become state policy, explicit in the statutory codes. The annual report has come to include the individual status of all waste-to-energy projects under development in California, as well as the over-all status of waste-to-energy technology in its role as a component of an integrated waste management plan. A section on landfill gas recovery and a discussion of the State's regulatory policies have been added to this year's edition.

Specific information about the individual projects can be found in the tables as well in the Appendix, where information obtained through a telephone survey performed in November and December 1986 is reproduced. Documents received from project proponents after completion of the telephone survey were used to update the information when possible.

CURRENT TRENDS

California is reflecting nationwide trends toward smaller plants, mass burn technology, production of electricity versus steam, private ownership, and an increase in landfill gas recovery. The survey of projects in California showed the following:

- o Thirteen of the plants surveyed will process 750 tons per day (TPD) or less, seven will process between 800 and 1600 TPD, eight will process over 1600 TPD (one is undecided).
- o Eighteen plants will use mass burn technology, six plan to use refuse-derived fuel, and five facilities are undecided.
- o Twenty-three plants will produce electricity only, one will produce steam only, one will produce both electricity and steam, and four are undecided.
- o Thirteen plants will be privately owned, three publicly owned, and thirteen are undecided.
- o Eleven plants will produce less than 20 megawatts (MW) of electricity, ten will produce between 20 and 49 MW, and four plants will produce 50 MW or more (the California Energy Commission jurisdictional limit). Four are undecided.
- o Nineteen of the twenty-nine projects are located in the major metropolitan areas of Los Angeles and the San Francisco Bay Area.
- o Fourteen plants expect to be in operation by the end of 1990.
- o 49 landfill gas recovery projects have been constructed with 10 proposed.

Survey Results

Information collected during the survey of waste-to-energy projects in California is presented in the following tables. For more detailed information please see the individual project surveys in the appendix.

Out of 33 facilities included in the survey, 29 have been listed in the Tables. The four excluded from tabulation have shown no progress in the last few years and join the five projects listed in last year's survey as "dead projects". They are : City of San Jose, County of Marin, County of Santa Cruz, and the North West Riverside projects. Last year's projects were: City of Berkeley, FRECLO, Lynwood, SMUD, and UCLA.

There are also five facilities which have had little progress but still have active support, they are: Alameda, City of Sacramento, City of Santa Clara, Central Contra Costa, and Pleasanton.

In the first table (Facility Data) are given the location, waste processing capacity, design (waste handling method and/or grate design), electrical power generation, air pollution controls, and proposed operation date of each facility. In the second table (Financial Information) the owner, operator, financing needs, and financing authority are given. In the third table (Economic Data) the tipping fee, materials recovery effort, and energy contracts are given. The fourth table (Permit Status) is a listing of the status of the permits required of different WTE facilities. Some of the permits are handled in stages. For example, an air pollution control district Permit to Construct must first be applied for, the application deemed complete by the district, and then reviewed, decided upon and finally issued. The fifth table (Landfill Gas) contains data on landfill gas recovery projects, capacity, location, and economics.

The information presented here was obtained through a survey of project proponents. The operation dates, design data, permit status, etc. are anticipated or planned by the proponent and do not represent the view of the Board.

TABLE I

Facility Data

Project	Location (city/county)	Capacity TPD	Design
Alameda	Alameda/Alameda	1660	
Azusa	Azusa/Los Angeles	2000	RDF/LFG, shred & burn
BARRP	Redwood City/San Mateo	3000	RDF, Spreader/stroker
Commerce	Commerce/Los Angeles	300	Mass burn, Foster Wheeler
Compton	Compton/Los Angeles	2000	RDF, shred & burn
Contra Costa	Concord/Contra Costa	900	Mass burn
Fresno-Clovis	Fresno/Fresno	350	
Irwindale	Irwindale/Los Angeles	2250	Mass burn, Ogden Martin
LANCER	Los Angeles/Los Angeles	1600	Mass burn, Ogden Martin
Lassen	Susanville/Lassen	96	Mass burn, Brunn/Sorensen
North County	San Marcos/San Diego	1600	RDF, B & W
Oxnard	Oxnard/Ventura	350	Mass burn
Pleasanton	Pleasanton/Alameda	200	
Puente Hills	Industry/Los Angeles	2000	Mass burn
Sacramento	Sacramento/Sacramento	700	
Salinas	Salinas/Monterey	140	Mass burn
San Bernardino	Ontario/San Bernardino	1600	RDF, Foster Wheeler
SANDER	San Diego/San Diego	2250	Mass burn, Signal Env. Sy.
Sanger	Sanger/Fresno	500	Mass burn
Santa Clara	Santa Clara/Santa Clara	500	Mass burn
SERRF	Long Beach/Los Angeles	900	Mass burn, Steinmuller
Southgate	Southgate/Los Angeles	375	Mass burn
Spadra	Pomona/Los Angeles	1000	Mass burn,
Stanislaus	Modesto/Stanislaus	800	Mass burn, Ogden Martin
Tri-Cities	Fremont/Alameda	480	Mass burn, Vicon modular
Ukiah	Ukiah/Mendocino		
Visalia	Visalia/Tulare	350	Mass burn
Watson	Wilmington/Los Angeles	2100	RDF, 2-stage rotary burn
West County	Richmond/Contra Costa	510	Mass burn, O'Connor rty.comb
Total		30501	

Power MW	Air Pollution Controls	Operation Date
42		
49		1990
80	Baghouse, Scrubber	mid 1990
11	Baghouse, Dry Scrubber, Thermal DeNOx	1/1/87
49		1990
20		
60	Baghouse, Dry Venturi, Quench Reactor and Thermal DeNOx	1/89
40	Baghouse, Dry Scrubber & Thermal DeNOx	Late 1990
1.5	Baghouse	1/1/85
38	Dry Scrubber	1990
9		
50	NH3 Injection, Baghouse & Dry Scrubber	
5		
39	NH3 Injection, Baghouse & Dry Scrubber	
60	Baghouse and Dry Scrubber	Early 1992
7	NH3 Inj., Baghouse, ESP, Selective Catalytic Red.	12/89
8		
20	NH3 Injection, Baghouse & Scrubber	
7		
24		3/91
18	Baghouse, Dry Scrubber & Thermal DeNOx	88/89
12	Baghouse and Dry Scrubber	1989
7	Baghouse and Dry Scrubber	
		1992
40	Dry Scrubber	
12	Baghouse, Dry Scrubber	1/1/90
708.5		

TABLE II
Financial Information

Project	Owner	Operator
Alameda	Alameda Bureau of Elec.	
Azusa	Azusa Energy Systems	Azusa Energy Systems
BARRP	Combustion Engineering	Combustion Engineering
Commerce	Commerce RTE Authority	Commerce RTE Authority
Compton	Compton Energy Systems	
Contra Costa		
Fresno-Clovis		
Irwindale	Pacific Waste Management	Ogden Martin Systems, Inc.
LANCER	Ogden Martin Systems, Inc.	Ogden Martin Systeme, Inc.
Lassen	Lassen Community College District	
North County	N Co. Resource Recovery Assoc.	N Co. Resource Recovery Assoc.
Oxnard	City of Oxnard	
Pleasanton	Pleasanton Garbage Service	Pleasanton Garbage Service
Puente Hills	Los Angeles Co. Sanitation Dist.	L. A. Co. San. Dist
Sacramento		
Salinas	City of Salinas	Salinas Disposal Service
San Bernardino	San Bernardino County	Foster Wheeler
SANDER	Signal Environmental	Signal Environmental
Sanger	Incintech America Corp.	
Santa Clara		
SERRF	Southeast RR Facility Joint Powers Authority	Dravo Corp.
Southgate	Southgate/San. Dist. Joint Powers Authority	L. A. Co. San. Dist.
Spadra	Los Angeles Co. Sanitation Dist.	L. A. Co. San. Dist.
Stanislaus	Ogden Martin Systems, Inc.	Ogden Martin Systems, Inc.
Tri-Cities	Vicon, Oakland Scav. & Fluor	Vicon, Oakland Scav. & Fluor
Ukiah	Pacific Waste Management	Pacific Waste Management
Visalia		
Watson	Joint Venture Group	
West County	Richmond Sanitary Service	Westinghouse

Amount to be Financed	Type of Ownership	Financing Authority
	Public	
180 million	Private	
500 million	Private	CPCFA
8.13 million		Commerce RTE Authority
180 million		
546 million	Private	Local Authority
263 million	Private	Local Authority
7.15 million	Private-lease/purchase	Certificates of Participation
212 million	Private	CPCFA
41 million	Private	CPCFA
65 million		
205 million	Private	CPCFA
228 million	Private	CPCFA
78 million	Private	CPCFA
145 million	Public	Southeast Resource Recovery Fac.
65 million		
118 million		
128 million	Private	CPCFA
53 million	Private	CPCFA
30 million	Private	
222 million	Private	CPCFA
100 million	Private	CPCFA
----- 3374.28 million		

TABLE III

Economic Data

Project	Tipping Fee Start-up, Future	Materials Recovery
Alameda		
Azusa		
BARRP		
Commerce	\$14.84 / ton	No
Compton		
Contra Costa		
Fresno-Clovis		
Irwindale		
LANCER	\$25 - 40 / ton	
Lassen		
North County	\$10.56 / ton	Yes
Oxnard		
Pleasanton		
Puente Hills	\$ 7.00 / ton	
Sacramento	\$13 - 40 / ton	
Salinas		
San Bernardino	\$15 - 19 / ton	Yes
SANDER	\$12.80 / ton	Yes
Sanger	\$ 22 - 25 / ton	
Santa Clara		
SERRF	\$16.00 / ton	No
Southgate	\$16.50 / ton	
Spadra	\$7.00 / ton	
Stanislaus	\$15 - 20 / ton	Yes
Tri-Cities	\$15.00 / ton	No
Ukiah	\$9.00 / ton	Yes
Visalia		
Watson	\$20.00 / ton	Yes
West County		Yes

Key: signed - S
in negotiation - N
letter of understanding - L

Utility	ENERGY CONTRACTS Terms	Status	Energy Rates
ABE			
SCE	Standard Offer #4		
PG&E	Negotiated	S	\$ 0.10
SCE	Standard Offer #4	S	\$ 0.064
SCE	Standard Offer #4	S	\$ 0.081
	-		
SCE		S	\$ 0.076
LADWP		L	\$ 0.054
PG&E	As delivered	S	\$ 0.029
SDG&E	Negotiated	S	\$ 0.08
SCE			
SCE			
SCE	Standard Offer #4	N	\$ 0.095
SDG&E	Standard Offer #4	S	\$ 0.083
PG&E	Firm Capacity	N	\$ 0.065
SCE	Standard Offer #4	S	\$ 0.069
SCE			
SCE	Modified Standard Offer #4	N	\$ 0.085
PG&E	Standard Offer #4	N	\$ 0.10
PG&E	Standard Offer #4	S	\$ 0.08
PG&E	Standard Offer #4	S	\$ 0.07
SCE	Negotiated	S	\$ 0.083
PG&E	Modified Standard Offer #4		\$ 0.035

TABLE IV
Permit Status

Key : A - applied for
R - received or accepted
P - in progress
D - denied

Project	Environmental Assessment		Authority to Construct		Permit to Operate	Local Approval	
Alameda							
Azusa	7/24/85	R		A			
BARRF							
Commerce	1982	A	1984	R		1983	R
Compton	8/84	R	1984	A			
Contra Costa							
Fresno-Clovis							
Irwindale							
LANCER	5/87	P	10/02/86	A	1986 A	11/85	A
Lassen			07/27/83	R	07/27/83 A		R
North County	1/85	R	1984	R		1/85	R
Oxnard							
Pleasanton							
Puente Hills		A	12/85	A	12/85 A		
Sacramento							
Salinas							
San Bernardino							
SANDER							
Sanger	03/87	P	10/85	A	10/85 A		
Santa Clara							
SERRF	10/84	R	07/09/84	R		12/06/83	R
Southgate	04/84	R	11/85	A			
Spadra	10/85	R		A		06/85	R
Stanislaus	06/24/86	R	08/19/86	R		06/24/86	R
Tri-Cities	11/82	R	12/03/85	R		04/26/83	R
Ukiah							
Visalia							
Watson	05/21/79	R					
West County	09/24/85	R	02/84	A			R

* Three projects going through the CEC AFC process require determinations of compliance from state and local permitting agencies.

Finding of Consistency (General Plan)	Solid Waste Facilities	Ash Classification	CEC AFC (Deemed Complete)
		N	
		N	
			12/10/86
	1984 R	N	
			03/20/85
04/86 A		N	
	12/16/82 R	H	
01/85 R	03/86 R	N	
		N	
		N	12/22/87
	05/30/85 R		
06/85 R		N	
06/24/86 R	08/19/86 R	N	
10/85 R	07/85 A	N	
	1980 R		

Methane Recovery Projects

Developer Location	Gas Recovered (1000's CFD)	Electric Power (MW)	Start Date	Landfill Ownership
Azusa Land Reclamation Co. (Azusa: Azusa Land Reclamation Co.)	1,600		4/78	private
Burbank Landfill Gas Corp. (Burbank: City of Burbank)			12/86	public
Fresno Landfill Gas Corp. (Sanger: Southeast Regional Disposal Site)		1.2	10/86	public
GSF Energy Systems (Brea: Olinda Alpha Sanitary Landfill)	5,000	5.62	11/84	public
GSF Energy Systems (Los Angeles: American Golf, Inc.) **	4,000		11/84	private
GSF Energy Systems (Martinez: ACME)	2,000		4/82	private
GSF Energy Systems (Monterey Park: Operating Industries, Inc.)	8,000		8/79	private
GSF Energy Systems (San Fernando: Sunshine Canyon North Valley Landfill)	1,100		11/81	public
GSF Energy Systems (San Leandro: Davis Street Sanitary Landfill)	3,000		7/81	private
Genstar Gas Recovery Systems (Bakersfield: China Grade Sanitary Landfill)	1,200		7/86	public

Developer Location	Gas Recovered (1000's CFD)	Electric Power (MW)	Start Date	Landfill Ownership
Genstar Gas Recovery Systems (Fresno: City of Fresno Landfill)		3.0	12/86	public
Genstar Gas Recovery Systems (Los Angeles: Bradley Avenue East)	3,000		1/81	private
Genstar Gas Recovery Systems (Los Gatos: Guadalupe Rubbish Disposal Co.)		1.6	4/84	private
Genstar Gas Recovery Systems (Menlo Park: Marsh Road Sanitary Landfill)	1,440	2.0	1/83	public
Genstar Gas Recovery Systems (Mountainview: Shoeline Regional Park)		3.75	12/85	public
Genstar Gas Recovery Systems (Napa: American Canyon Landfill)		1.5	12/85	private
Genstar Gas Recovery Systems (Newport Beach: Coyote Canyon Landfill)		20.0	6/87	private
Genstar Gas Recovery Systems (San Jose: Newby Island Sanitary Landfill)		2.1	8/84	private
Genstar Gas Recovery Systems (San Jose: San Jose Municipal Disposal Ground)		1.5	12/86	public
City of Glendale Glendale: Scholl Canyon Sanitary Landfill)	1,872	1.8	4/83	public

Developer Location	Gas Recovered (1000's CFD)	Electric Power (MW)	Start Date	Landfill Ownership
Industry Hills (Industry: Industry Hills Convention Center) **	540		2/81	public
Los Angeles County Sanitation Districts (Rolling Hills Estates: Palos Verdes Landfill) **	720	1.1	12/83	public
Los Angeles County Sanitation Districts (Rolling Hills Estates: Palos Verdes Landfill) **		13.0	9/87	public
Los Angeles County Sanitation Districts (Pomona: Spadra Sanitary Landfill No. 2)		8.0	8/88	public
Los Angeles County Sanitation Districts (Whittier: Puente Hills Landfill No. 6)	5,300	3.9	12/83	public
Los Angeles County Sanitation Districts (Whittier: Puente Hills Landfill No. 6)	10,400	37.0	7/86	public
Los Angeles County Sanitation Districts (Whittier: Puente Hills Landfill No. 6)	175		3/86	public
Marina Landfill Gas Corp. (Marina: Monterey Peninsula Sanitary Landfill)	800	1.15	12/83	private
Nove Investments (Richmond: West Contra Costa Sanitary Landfill)		3.0	12/85	public
O'Brien Energy Systems (Corona: Corona Disposal Site)	2,500	5.2	1/86	public

Developer Location	Gas Recovered (1000's CFD)	Electric Power (MW)	Start Date	Landfill Ownership
O'Brien Energy Systems (Duarte: City of Duarte) **	750	2.3	10/82	public
Ox Mountain Tower Corp. (Ox Mountain: Ox Mountain Sanitary Landfill)		1.0	1/87	private
Pacific Gas & Electric (Mountainview: Shoreline Regional Park)	850	0.2	1/79	public
Pacific Lighting Energy Systems (Bakersfield: City of Bakersfield Sanitary Landfill)		1.88	11/85	public
Pacific Lighting Energy Systems (Bonsall: Bonsall Sanitary Landfill)		1.88	11/86	public
Pacific Lighting Energy Systems (Chula Vista: Otay Sanitary Landfill)		1.88	11/86	public
Pacific Lighting Energy Systems (Lompoc: City of Lompoc Sanitary landfill)		0.58	3/86	public
Pacific Lighting Energy Systems (Los Angeles: Lopez Canyon Sanitary Landfill)		4.0	6/87	public
Pacific Lighting Energy Systems (Los Angeles: Toyon Canyon Park Reclamation Project)		24.0	2/86	public

Developer Location	Gas Recovered (1000's CFD)	Electric Power (MW)	Start Date	Landfill Ownership
Pacific Lighting Energy Systems (Newhall: Chiquita Canyon Sanitary landfill)		2.0	12/86	private
Pacific Lighting Energy Systems (Ontario: Milliken Refuse Disposal Site)		5.0	7/88	public
Pacific Lighting Energy Systems (Oxnard: Santa Clara/ Coastal Sanitary Landfill)		5.55	2/85	public
Pacific Lighting Energy Systems (Palo Alto: City of Palo Alto Refuse Disposal Site)		2.0	1/87	public
Pacific Lighting Energy Systems (Salinas: Crazy Horse Sanitary Landfill)		1.50	9/86	public
Pacific Lighting Energy Systems (San Marcos: San Marcos landfill)		1.88	11/86	public
Pacific Lighting Energy Systems (Santa Clara: All Purpose Landfill)		1.5	9/86	public
Pacific Lighting Energy Systems (Santa Cruz: Santa Cruz City Disposal Site)		0.45	2/87	public
Pacific Lighting Energy Systems (Santee: Sycamore Sanitary Landfill)		3.75	2/87	public

Developer Location	Gas Recovered (1000's CFD)	Electric Power (MW)	Start Date	Landfill Ownership
Pacific Lighting Energy Systems (Stockton: City of Stockton (Austin Road) Landfill)		0.8	12/85	public
Pacific Lighting Energy Systems (Sun Valley: Shelton Arleta Disposal Site)		1.25	11/79	public
Pacific Lighting Energy Systems (Sun Valley: Penrose Pit)		9.38	12/85	private
Pacific Lighting Energy Systems (Upland: City of Upland Disposal Site)	175	0.50	12/83	public
Chateau Power Corp. (Palmer Capital) (Fresno: Chateau Fresno Landfill)		1.0	1/87	private
County of Santa Cruz (Watsonville; Buena Vista)	230	0.45	5/85	public
Waste Management (Lancaster: Lancaster Disposal Site)		1.6	12/86	private
Waste Management (Simi Valley: Simi Sanitary Landfill)		1.7	12/86	private
Watson Biogas (Wilmington: Ascon Landfill) **	2,500		1/79	private
Watson Biogas (Wilmington: Ascon Landfill) **		1.7	7/87	private

Developer Location	Gas Recovered (1000's CFD)	Electric Power (MW)	Start Date	Landfill Ownership
West Coast Cogeneration, Inc. (West Covina: BKK West Covina Disposal Site)		6.5	8/86	private
Yolo Gas Recovery Company (Davis: Yolo County Central landfill)		12.0	6/86	public

** means closed or inactive disposal site

Sources:

CWMB Files
 Governmental Advisory Associates, Inc., Methane Recovery From
 Landfill Yearbook, 1986-87
 Waste Age, Landfill Gas Survey Update, March 1986
 Pacific Gas & Electric Co., Cogeneration and Small Power
 Production Quarterly Report, Third Quarter 1986
 Southern California Edison Co., Cogeneration/Small Power
 Projects Quarterly Report, December 31, 1986

PROJECT REPORT CARD

Commerce Project

The Commerce Refuse-to-Energy plant is the first full scale, commercial WTE plant operating in California. As part of the 1981 - 82 grant year, the Waste Management Board awarded the City of Commerce \$1,000,000 for the construction of a small scale waste-to-energy demonstration project. In 1983, the city and the Los Angeles County Sanitation Districts (LACSD) formed a joint powers agency, the Commerce Refuse-to-Energy Authority, to implement the project. Construction financing included \$2,000,000 each from the city and the sanitation districts, the Board's grant, and a \$44,170,000 bond issued by the Commerce Refuse-to-Energy Authority in the of 1984.

The facility was granted a Negative Declaration under the California Environmental Quality Act. Construction of the facility began in April 1985 and was completed by December, 1986. Burning of waste began in early December to test plant equipment, with the acceptance testing to occur in February 1987. However, the plant still must obtain a Permit to Operate from the South Coast Air Quality Management District by a demonstrating its ability to meet the conditions specified in the Authority to Construct. Full commercial operation at 350 TPD of waste disposal capacity and 11 megawatts of electrical generation is scheduled to begin early in 1987. A unique feature of this project is the use of a selected, high heat value refuse stream generated by the commercial and industrial sectors of the City of Commerce. The facility will be the subject of extensive emission testing by the district, Air Resources Board, Department of Health Services, and CWMB in the hope of gaining a fuller understanding of emission characteristics from WTE technology.

Long Beach Project

Last year marked the beginning of construction of the largest WTE plant in the western United States. The 1100 TPD Southeast Resource Recovery Facility (SERRF) will generate 20 MW of electricity. It is being constructed by Dravo Corporation, who will also operate the plant under a five year "turnkey" contract. The project, one of the six originally proposed under SB 1855, is a joint venture of the City of Long Beach and the LACSD. It received funding from the Board and the Environmental Protection Agency in 1979 - 1980 for feasibility and environmental analyses.

After several years in the development stage, financing was secured in August 1985. In December 1985, \$125 million in bonds were sold to finance construction of a 750 TPD, two unit plant. In December, 1986, \$ 25.7 million in bonds were sold to finance the addition of a third unit that will bring the facility to its full design capacity of 1100 TPD. Construction began in February 1986. Full commercial operation is planned for August 1988.

Stanislaus Project

The Stanislaus project made significant progress over the last year in developing the first WTE facility in California's Central Valley. Located at the Fink Road Landfill, 20 miles southwest of Modesto, the project represents the combined efforts and commitments of the County of Stanislaus, the City of Modesto, and the Stanislaus Waste Energy Company, a local subsidiary of Ogden Martin, Inc. of Paramus New Jersey. The Stanislaus Waste Energy Co. will design, build, own, and operate the mass burn facility which will burn 243,000 tons per year of MSW for the city and county, converting the waste into 21 megawatts of electricity. The County will dispose of the ash at the adjacent landfill.

Siting of the facility proceeded quickly; financing was secured in late 1985 and all necessary permits were received by mid-1986, including the solid waste facilities permit and the authority to construct from the air pollution control district. The project was the first to obtain funding from the California Pollution Control Financing Authority (CPCFA). A groundbreaking ceremony was held on August 23, 1986. Commercial operation is expected in late 1988.

North County Resource Recovery Associates Project

The San Marcos Project, officially known as the North County Resource Recovery Associates (NCRRA) project, made significant progress during 1986, despite the efforts of a local opposition group to derail the project in the courts.

The project will burn 1600 TPD of refuse derived fuel and generate 38 MW. It was the first WTE plant to be required to have a health risk assessment conducted for the emission of hazardous air pollutants. It received an Authority to Construct in 1984 from the air pollution control district, and the California Pollution Control Financing Authority issued industrial development bonds in December of 1985. The project design includes Italian recycling technology manufactured by Sorrain-Cecchini. The system will process about 2400 tons a day, separating glass, metals, and film plastics. These last are processed at a rate of 6,000 tons per year and are pelletized for sale and reuse. The project has had the support of the local Sierra Club chapter.

A solid waste facilities permit was issued in March, 1986 and in November the mandatory tender date for the escrowed bonds was extended to December 1987. As 1986 drew to a close, the project had obtained a grading permit and was expecting to receive a building permit in December. The low note of the year was a court ruling that the General Plan Amendment adopted by the City of San Marcos lacked proper environmental review. As this article is being written, it is unknown what effect this action will have on the project. An opposition group is trying to use this action as a last effort to stop the project.

Spadra Project

The Los Angeles County Sanitation Districts has proposed to build a WTE facility at the Spadra Landfill in Pomona. The plant would burn 3,000 TPD to generate 24 MW. Although the Sanitation Districts plan to operate the facility, final ownership has not yet been determined.

Significant progress was made in 1986 towards acquiring permits from local governmental agencies; however the most critical, the Permit to Construct from the South Coast Air Quality Management District, had not been received by the end of the year. Although the project had been found in conformance with the Los Angeles County Solid Waste Management Plan by the CWMB in September, the solid waste facilities permit will not be sought until the air permit has been issued.

Sanger Project

The City of Sanger WTE project has experienced extensive changes in its conceptual design. The original proposal has been dropped with the original developer now looking at a biomass facility associated with an agricultural concern.

The City has sponsored a joint venture between Dynatec Inc. and Satoh-Koa (a Japanese firm) for the design and construction of a 500 TPD facility. The facility will be unusual in that the msw portion will generate 7 MW of electricity with an additional 40 MW to be generated by a natural gas fired turbine. The air pollution control technology proposed for the project is also unique in California. The sponsors have proposed use of ammonia injection, selective catalytic reduction, electrostatic precipitation, and a filter baghouse on a split exhaust stream.

The total project costs are currently estimated to be in the \$70 - \$75 million range, with the City's Redevelopment Agency looking to CPCFA for financing. An EIR and a health risk assessment are under way and the City has annexed 500 acres for an industrial park. The WTE facility would be located in the industrial park so as to be close to prospective light industry which could use

steam. As of December, the project proponents and the City were attempting to re-negotiate the energy sales agreement which the original project had with Pacific Gas and Electric.

SANDER Project

The San Diego Energy Recovery (SANDER) project grew out of the Board sponsored Southern California Urban Resource Recovery Project study as a joint effort between the City and the County of San Diego. It is also one the six SB 1855 projects.

After several attempts at finding an acceptable site, an agreement was reached with the Navy to swap federal property adjacent to the City's Miramar Landfill for some City property elsewhere. Then, in 1985 Signal Environmental was designated as the contractor to design, own, build and operate the facility under a service agreement.

Because the project will generate 60 MW, it falls under the permit jurisdiction of the California Energy Commission (CEC). The Application for Certification (AFC) was accepted by the CEC on December 18, 1985, starting what was intended to be a one year permitting process; however, because of delays attributable to the complexity of combining and coordinating all permitting requirements in a single agency process, the statutory one year process has had to be extended. If the current schedule is adhered to, the CEC will decide on the AFC in December, 1987.

As a result of siting the project in the city, and the proposal to only burn waste generated in the city (2250 TPD), project management was transferred in 1986 to the City of San Diego.

Irwindale Project

The Irwindale WTE plant was first proposed by Pacific Waste Management as a 3150 TPD facility to be located in the San Gabriel Valley community of Irwindale. The project is the only project to have obtained financing before applying for any permits. Having an 80 MW capacity, it is also under the jurisdiction of the CEC and an AFC was duly filed in 1984. The CEC Siting Committee appointed to supervise the certification of the facility deemed the AFC complete on March 20, 1985 starting what was expected to be a one year review process. After many data requests, data responses, challenges and delays, the committee ordered the schedule suspended as of April 1, 1986 due to insufficient emissions offsets and no waste supply contract.

After several appeals and a request for reconsideration which were denied by the Commission, including a Motion to Disqualify members of the Siting Committee, Pacific Waste filed an Addendum to the AFC altering the project to a two phase design. Phase I

was to consist of a 2250 TPD, 60 MW facility (three out of four units) with Phase II to get underway six months after Phase I was in operation. Phase II would bring the facility to a full capacity of 3000 TPD and 80 MW.

On November 13, the Siting Committee granted a two month extension (to 12/01/86) on the showing of waste guarantees. On November 28, Pacific Waste filed an executed contract with Western Waste Industries for 2000 TPD of waste to be supplied six days a week until December, 2013. On December 22, Pacific submitted its offset package to the SCAQMD; however, on January 14, 1987, the district deemed the package incomplete. In response, the CEC has ordered PWM "to show cause why the AFC should not be dismissed without prejudice for failure to provide a complete offset filing."

BARRF Project

The Bay Area Resource Recovery Facility (BARRF) project is being proposed by Combustion Engineering and would burn waste generated by the City of San Francisco. The current proposal is for location near the Port of Redwood City in San Mateo County. The project was originally proposed for location in Brisbane but was rejected by voters. The project would burn 3000 tons per day of refuse derived fuel (RDF) and generate 80 MW. The City of San Francisco has committed to supping sufficient waste for the life of the facility. Combustion Engineering filed an AFC with the CEC on November 25, 1985. Combustion Engineering made its final data submittal to the CEC in mid-November, 1986. On December 12, 1986 the AFC was accepted as complete, starting a one year permitting process; however, the experiences of other waste-to-energy projects subjected to the complexities of the CEC process would indicate that completion within one year is optimistic.

LANDFILL GAS RECOVERY

The recovery of methane gas from landfills has potential environmental benefits by reducing the amount of gas that can escape from a landfill. The uncontrolled emission of landfill gas can create threats to health and safety: methane in high enough concentrations is explosive, and landfill gas may contain trace levels of toxic gases. The recovery of methane gas is also another method for recovering energy from solid waste. While waste-to-energy plants can recover energy from burning waste, landfill gas recovery projects use the gas that naturally results from the decomposition of organic materials wastes in a landfill.

The first landfill gas recovery projects were intended to supplement natural gas supplies. These early efforts were not particularly successful due to the lower than expected energy content of the gas and the higher than expected level of impurities.

The passage of the Public Utility Regulatory Policies Act (PURPA) in 1978 created financial support for the production of electric power at small, non-utility plants by requiring utilities to purchase power at specified rates. Landfill gas projects were started primarily for the purpose of generating electrical power. The understanding of the environmental and health benefits of controlling landfill gas came later. Only one project that began operation after 1982 is not generating electricity for sale.

When compared with waste-to-energy projects, gas recovery projects are relatively small energy producers. There are only four gas projects that plan to generate more than 20 megawatts; the average electric power capacity is 5 megawatts. Further, the capital cost of gas recovery systems is quite small compared to combustion projects. The most expensive gas project is the Puente Hills project at approximately \$33 million. According to data compiled by Governmental Advisory Associates the national average capital cost for existing methane recovery project is \$3 million; for those in planning the average cost is \$4.5 million (Methane Recovery from Landfill Yearbook, 1986-87). A big advantage of landfill gas collection systems is that the revenues generated by electricity sales offset costs of operation and closure of the landfill.

CHANGING POLICY

In the late 1970s, due to both the energy crisis and the environmental movement, resource recovery technologies were promoted by the Legislature and by federal regulatory agencies. Laws were passed requiring utilities to purchase energy from WTE facilities, exempting facilities from certain air pollution permit requirements, and classifying ash as non-hazardous under certain conditions. Financing methods for pollution control projects were made available with non-taxable bonds and low interest loans. All such efforts were directed at encouraging what was seen as an environmentally safe and economical method of waste disposal.

In the last five years, the picture has changed. Oil prices have dropped due to a temporary oversupply at refineries which, in turn, has made the economics of WTE less competitive. December 31, 1987 is fast approaching and many regions of the state have still not achieved attainment of the NAAQS as mandated by the Clean Air Act. The permitting of new sources of air pollution will become more tightly regulated; further, public concerns over dioxins and other toxic air contaminants have increased the scrutiny given WTE. Actions in the Legislature have altered laws that at one time encouraged the use of WTE technology so that, at this time, WTE is fighting an uphill battle.

Energy - Lower Prices, Limited Market

In 1978, Congress passed the Public Utilities Regulatory Policy Act (PURPA). Under the Act, privately owned utilities are required to purchase electrical power generated by a qualifying small power producer at a rate determined by the cost which the utility would have incurred to create the additional capacity itself. This became known as the avoided cost and is generally at the high end of a utility's rate structure. In response to PURPA, the California Public Utilities Commission (PUC), together with the utilities, established a series of standard offers for electrical generating capacity and delivered power. The most useful offer for WTE projects was standard offer #4, which reflected the long-term use of WTE plants as base-load power plants. This offer was instrumental in accelerating the progress of many projects.

Under the avoided cost scenarios of the late 70s, rates given WTE facilities were favorable; however, the drop in oil prices in the early 80s reduced the cost to utilities of generating electricity from their oil and gas fired units. As a result, the utilities requested that the PUC suspend the offer, as has been done and the offer is currently under consideration by the PUC. Further, the utilities have been negotiating with some project proponents to reduce the rates given under SO#4 and, in some instances, would not extend signed contracts held by WTE facilities when the contracts had lapsed due to delays in siting the facility. No final resolution has yet been achieved.

In its biennial Electricity Report (ER-6), the CEC predicts that there will be an oversupply of small power producer electricity through the 1990s. In the report, the CEC asserts that if the utilities are required to continue purchasing the power, rates to the consumer could increase due to displacement of cheaper baseline power. The CEC is intending to reflect the policies established in ER-6 in its siting decisions for the WTE projects under its jurisdiction.

Air Quality - More Stringent Regulation

Air quality legislation dealing with cogeneration and resource recovery has taken an even more dramatic reversal. In 1979, the Legislature passed Assembly Bill 524 which reduced the air pollution permit requirements for offsetting increases of emissions from cogeneration and resource recovery plants. The bill further specified that the ARB should prepare revisions to the State Implementation Plan to provide mitigation for the air quality impact of such projects.

Later, in 1981, Assembly Bill 1862 altered the requirement of mitigation by the State to one which required that local air pollution control districts provide emissions growth allowances in their air quality management plans to satisfy the offset provisions. In addition the bill created an emission offset from the displacement of utility emissions which purchased power from a cogeneration or resource recovery facility. These actions were intended to aid the siting of favored technologies.

In the following years, several cogeneration projects were sited under the provisions of the two bills. Only 5 WTE facilities were reviewed. The large number of cogeneration sources applying for the offset exemptions came to the notice of the EPA which was concerned about the lack of mitigation in non-attainment areas. The EPA determined that the state laws were in conflict with the Clean Air Act in that, by definition, a non-attainment area has no control measures available to it for establishment of a growth allowance to cover the exempted sources because all available reductions must be used toward demonstrating attainment of the standards. Further, the EPA disapproved of the method of determining utility offset credits, maintaining that the credit

did not meet its criteria to be permanent, real, quantifiable, surplus, and enforceable. As a result, Senator Rosenthal proposed development of a consensus bill agreeable to federal, state, and local agencies, cogenerators, and WTE proponents which would reconcile the federal and state intentions.

The bill developed by the coalition, SB 166 (1985), resolved the federal-state conflict by requiring district assistance with offsets for only the attainment pollutants. It also reserved 90% of the newly calculated utility offset credits for facilities which were cleaner than the utilities. This eliminated several WTE plants from eligibility for offset assistance.

Last year WTE projects were further singled out from other sources for additional regulation. Assemblymember Sher introduced AB 3989 in an attempt to bring WTE technology under the provisions of the toxic air contaminant (TAC) control program. The Air Resources Board and the Department of Health Services are in the process of identifying substances as TACs and developing control measures. So far seven out of a proposed list of 46 substances have been formally adopted. In the bill, WTE project applicants are required to have a health risk assessment performed on the emission of toxic air contaminants from a plant and to establish a monitoring system for TACs. Further, they must comply with control measures for TACs even if adopted by the district after the facility had been issued a permit. These requirements add to the expense and effort of siting WTE projects but were accepted by the industry in hopes of assuring the public of its intent to safeguard public health.

1987 has seen the introduction of more bills further limiting the possibility of building a WTE plant in many areas of the state, either through air pollution restrictions, health risk considerations, or requirements for equitable distribution of waste handling facilities.

Ash Management - New Questions

Classification of WTE ash as either a hazardous or non-hazardous material has also been a controversial issue. The term "Ashes" is listed under Section 66680 (e) of the California Administrative Code as a hazardous waste of toxic and corrosive nature. The section does not specify the combustion process or products which would yield a hazardous material leaving one to assume all ashes to be hazardous (fireplace, charcoal grill, cigarette, etc.).

In 1984, Senator Campbell sponsored a bill, SB 2292, to clarify the regulatory requirements concerning ash from WTE facilities, particularly for projects for which permit applications had been submitted. Through the bill, the Legislature required the Department of Health Services to classify WTE bottom ash and fly ash as non-hazardous if the waste to be burned contained no

significant quantities of hazardous materials and the combustion of materials would be monitored and controlled to prevent disposal of any waste in a prohibited manner; however, the department may make a determination that it is hazardous upon subjecting the waste to the waste extraction test (Section 66700, CAC). Once made, the classification of non-hazardous may not be revoked unless there has been a significant change in the composition of the waste stream or if DHS has determined by testing representative samples of ash that the ash is hazardous.

The CWMB is currently engaged in developing a treatment method for use on fly and bottom ashes classified as hazardous under the waste extraction test. Bench scale tests have been successful in rendering fly and bottom ashes non-hazardous. The process uses a silicate solution to fix the metals in the ash and reduce leachability. If successful at full scale, the process could be adapted to facilities in California and elsewhere in the U.S.

Several other states are involved in efforts to develop acceptable disposal methods for ash. New York, Massachusetts, and Oregon are studying the problem and have contacted CWMB staff for information. The New York State Energy Research and Development Authority has proposed construction of a 15 TPD test facility at the Hudson Valley Community College in Troy near Rensselaer Polytechnic Institute. The University of Massachusetts has started an extensive literature search and study on completed and current research activities. The Oregon Department of Environmental Quality is also compiling information on state-of-the-art disposal.

Tax Reform

In 1986, the U.S. Congress passed the Tax Reform Act which will alter the manner in which waste-to-energy plants will be financed in the future. The most significant change will be a shift toward more publicly owned projects as less tax-exempt financing will be available for privately owned projects. The 1984 Tax Reform Act instituted a limit or cap on the amount of "private-purpose" IDBs that could be issued. This cap was \$150 per capita in any given state. The 1986 law lowered this to \$75 per capita for 1987 and \$50 per capita thereafter.

In addition to the reduced cap, the 1986 Tax Reform Act (ITC) eliminates the Investment Tax Credit for privately owned projects. The ITC reduced the income tax liability of the owner for the amounts of capital and credit invested in the project. Elimination of the ITC will lengthen the time period needed to recover investment costs. A great number of the projects covered in this report will be allowed to claim a modified tax credit due to transition rules for projects under development.

CONCLUSIONS

Waste-to-energy technology was at one time seen as all of the following: an environmentally acceptable alternative to landfilling wastes; a method to recover energy from unwanted materials; a financially attractive waste disposal method due to energy sales; and, a way to lessen our dependence upon landfills by greatly reducing the volume of material needing disposal.

Today, the energy and economic situations have changed, environmental problems worsened, and citizen concerns have increased; however, there is still one overriding point: nearly one hundred thousand tons of garbage are generated daily in California and must be disposed of somehow. The need for reliable and environmentally sound methods of waste disposal is a constant in an ever changing world. WTE is a powerful tool for reducing waste quantities; it represents a finite and analyzable process, open to study and improvement.

The Waste Management Board believes that WTE has a place in the State's waste management program. Existing regulations for WTE technology require the most stringent forms of air pollution control, thorough health risk assessments, and regular testing and monitoring of ash. WTE facilities built to meet these requirements and operated accordingly, should pose little threat to public health and the environment. The continuing piecemeal efforts to increase the level of regulation on the technology, along with changes to policies on energy and project financing, create an uncertain future for waste management programs in California. The uncertainty also sends a confusing message to local officials and private companies responsible for managing the State's refuse as to preferred disposal methods. The Board therefore concludes that policies affecting the development, regulation and siting of resource recovery projects should be considered in a more consolidated fashion.

CALIFORNIA WASTE MANAGEMENT BOARD

AGENDA ITEM #9

APRIL 21-22, 1987

Item:

Report on State Water Resources Control Board's Shredder Waste Policy.

Key Issues:

- o DHS classification of shredder waste
- o Designated waste disposal requirements
- o SWRCB policy requirements for Class III disposal of shredder waste

Background:

Until 1984, shredder waste was considered a nonhazardous waste. In 1984, chemical analysis of this material indicated that it was hazardous according to the Department of Health Services (DHS) criteria. This reclassification created an emergency disposal situation and precipitated the introduction of SB 976. The Legislature, upon passage of this bill declared that shredder waste shall not be classified as hazardous for purposes of disposal if certain conditions were met. The conditions required the producer of the shredder waste to demonstrate to a RWQCB that the waste would not pose a threat to human health or water quality if disposed of in a Class III landfill (Section 2533, Subchapter 15, Chapter 3, Title 23 of the California Administrative Code).

DHS granted shredder waste a variance for the purpose of disposal from hazardous waste management requirements. Hazardous waste, which has received a variance from DHS for the purpose of disposal is classified as a designated waste.

In general, most designated wastes must be disposed of in a Class I or Class II landfill. However, a RWQCB can allow such a waste to be disposed of in a Class III landfill if the waste presents a lower risk of degrading water quality than is indicated by its classification.

In order to minimize the confusion that resulted from the passage of SB 976, the SWRCB decided to establish a uniform policy for shredder waste disposal. This policy is attached for your review. Basically, the policy will allow disposal of shredder waste at a Class III landfill if the landfill meets the minimum Class III requirements as defined by Subchapter 15 and provided that:

- a. The shredder waste producer has demonstrated to the Regional Board that the waste contains no more than 50 mg/kg of PCBs and,
- b. The shredder waste is disposed on the last and highest lift in a closed disposal cell or in an isolated cell solely designated for the disposal of shredder waste.

Recommendation:

Information item only.

CALIFORNIA WASTE MANAGEMENT BOARD

AGENDA ITEM # 10

APRIL 21-22, 1987

ITEM:

Review of Department of Conservation Regulations for the Implementation of Assembly Bill 2020.

KEY ISSUES:

- o Processing Fee Regulations circulated February 23, 1987. No comments submitted by Board staff.
- o Accounting and Reporting Procedures Regulations circulated March 19, 1987. No comments submitted by Board staff.

BACKGROUND:

The Department of Conservation was required to implement certain provisions of Assembly Bill 2020 with emergency regulations to meet deadlines specified in the law. The attached regulations address the procedures for imposition and collection of the beverage container processing fees and the accounting and reporting procedures for tracking materials and cash flows that will be instituted on beverage distributors effective September 1, 1987.

The regulations reflect the complex nature of the California Beverage Container Recycling and Litter Reduction Act, which establishes a very rigid procedure for the collection of revenues from distributors and manufacturers and distribution of revenues to processors and recyclers. Since the regulations and the program are focused on the beverage containers defined in the law, there is not a significant impact on the solid waste stream as a whole. There are, however, situations when funding from AB 2020 may cover the cost for disposal of collected containers when certain economic conditions exist. Formulae for determining what "disposal costs" have yet to be defined. The Board should continue to be apprised of the methods utilized to determine these "disposal costs," as they may impact other local and state procedures for assessing disposal costs for all nonhazardous wastes at solid waste facilities.

Board staff will monitor the continued propagations of regulations from AB 2020 and any other aspects of the Department of Conservation program that the Board deems appropriate.

RECOMMENDATION:

Information item only.

MARCH 19, 1987

ACCOUNTING AND REPORTING PROCEDURES REGULATIONS

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Authority: Sections 14530.5 and 14536, Public Resources Code

Reference: Sections 14530.5 and 14536, Public Resources Code

Article 2. Definitions

2550 Additions and Clarifications.

(a) In addition to the definitions provided in the California Beverage Container Recycling and Litter Reduction Act and other subchapters of this Chapter, the following definitions shall apply whenever the terms are used in this subchapter.

(1) "Beverage container" means a container which meets the definition set forth in Section 14505 of the California Beverage Container Recycling and Litter Reduction Act and which is redeemable pursuant to that Act and this subchapter.

(2) "Beverage manufacturer" means each person which meets the definition set forth in Section 14506 of the California Beverage Container Recycling and Litter Reduction Act and has a Seller's Permit Number as determined by the Board of Equalization. Each beverage manufacturer's identification number shall be the same as its Seller's Permit Number.

(3) "Cancellation" means the act of making redeemable containers not redeemable by any of the following actions.

(A) Aluminum beverage containers shall be deemed cancelled when it is no longer physically possible to reconstitute a distinguishable container unit. This may be accomplished by shredding, nuggeting, or densification to thirty pounds per cubic foot or more.

(B) Glass beverage containers shall be deemed cancelled when they have been substantially cleaned of non-glass contaminants and crushed to uniform size in such a manner as

container component permanently out of the State.

- (9) "Importing" means the act of bringing into the State a filled or unfilled beverage container or beverage container component manufactured outside of the State.
- (10) "Location of end use" means the place where beverage containers or materials are physically reconstituted for purposes other than sorting, shredding, stripping, compressing, storing, landfilling, disposing, or other activities which do not result in recycling.
- (11) "Material" means the physical substance used to manufacture a beverage container or food and drink package including, but not limited to, aluminum, non-aluminum metal, glass, and plastic. Material includes beverage containers or other food and drink packages obtained by recycling centers.
- (12) "Material type" refers to the material primarily constituting a beverage container, specifically: 1) aluminum; 2) non-aluminum metal; 3) glass; 4) plastic; and 5) other.
- (13) "Nonredeemable materials" are food or drink packaging materials which are not redeemable.
- (14) "Person" means an individual, corporation, operation, or other entity, regardless of its form, subject to the California Beverage Container Recycling and Litter Reduction Act.
- (15) "Rejected container" means a California redemption labeled beverage container which a container manufacturer, beverage manufacturer, or distributor elects to recycle or dispose of without paying redemption value, or in the case of a container or beverage manufacturer, without paying a processing fee.
- (16) "Segregated" means divided by material type and such that the redeemable material is physically separate from the nonredeemable material.
- (17) "Shipping report" is the documentation of the receipt of material by a processor, or by a recycling center from another recycling center, prepared pursuant to subsections 2732 (a) or

review may include observation and inspection of transactions, verification of measurements, counts, weights or statistics, or other examination procedures regarding payments, transfers or other activities related to the California Beverage Container Recycling and Litter Reduction Act. Nothing herein shall in any way limit the Division's ability to carry out its responsibilities pursuant to Section 14575 of the California Beverage Container Recycling and Litter Reduction Act.

(a) Procedures for Examinations.

- (1) Scope of Examination. All books, records, accounts, facilities, sites, operations and activities in any way related to the California Beverage Container Recycling and Litter Reduction Act or regulations adopted pursuant to that Act shall be subject to examination for the purpose of determining compliance with those laws.
- (2) Place and Time of Examination. The Division or persons authorized by it may conduct examinations during normal business hours at any site or facility for the purpose of determining compliance with the California Beverage Container Recycling and Litter Reduction Act and regulations adopted pursuant to that Act, including but not limited to the location of the records designated pursuant to section 2603 of this subchapter. If the Division determines that it is necessary or appropriate to conduct an examination at a place or time other than that described above, the Division may require the person subject to the examination to produce or disclose any documents or other information described in subsection 2601 (a)(1) above at a place and time selected by the Division. The Division shall make such selection in a manner which reasonably balances the inconvenience to the person subject to the examination with the cost and effectiveness of the examination and the health and safety of the examiner.
- (3) Frequency of Examinations. The Division may examine any person, site, or facility as often as it deems necessary to determine compliance with the California Beverage Container Recycling and Litter Reduction Act or regulations adopted pursuant to that Act.

The notice shall contain the following information:

- (A) A description or copy of the request;
 - (B) Copies of the documents in the Division records which contain the requested information and may be disclosed in response to the request; and
 - (C) A statement that the person receiving the notice may object to the disclosure of the information by filing a written objection within 15 days of the receipt of the notice. Responses must be in writing. Any objection shall include a statement of the legal and factual grounds which justify denial of the request for the information. Absent a timely objection, the Division may disclose the information to the requesting party without further notice.
- (2) Within 15 days of the filing of a timely objection pursuant to subsection (b)(1), above, the Division shall review the objection and independently determine whether the requested information is exempt from disclosure by law. If it determines that the information is exempt from disclosure, the Division shall promptly notify the requesting party and the real party in interest that the request is denied and the reasons for the denial. If the Division determines that the information is subject to disclosure notwithstanding the objection, it shall:
- (A) Notify the real party in interest of its determination and the reasons therefore; and
 - (B) Provide the information to the requesting party no earlier than 10 days after informing the real party in interest of its determination.

Authority: Sections 14530.5 and 14536, Public Resources Code.

Reference: Section 14551(b), Public Resources Code; Sections 6250 et seq., Government Code.

Authority: Sections 14530.5 and 14536, Public Resources Code.

Reference: Sections 14537, 14538(e) and (f), and 14552, Public Resources Code.

2604 Reporting.

Except where specifically provided otherwise, any reports prepared pursuant to this subchapter shall be prepared and submitted in the form designated by the Division. Only reports on such forms and bearing an original signature pursuant to subsection 2604 (b)(4) shall be acceptable. The Division shall provide reporting forms to any person upon request.

- (a) All reports, claims, or other information shall be accurate, complete, and typed or legibly handwritten in English.
- (b) All reports or claims to support payments to or from the Division shall contain the following information.
 - (1) The full name, address, and identification number of the entity preparing the report.
 - (2) The name and phone number of a contact person for purposes of the report.
 - (3) The reporting period and date of preparation of the report.
 - (4) The signature and title of the representative of the entity authorized to prepare the report. The signature block shall state under penalty of perjury that the information in the report or claim is correct to the best knowledge of the person submitting the report or claim.
 - (5) The date and place of the signing of the claim or report.
- (c) Failure to comply with any provision of this section, or other requirement of this subchapter applicable to reporting, shall be grounds for the Division to reject the report. Any such rejection shall not extend any applicable time period.

Authority: Sections 14530.5 and 14536, Public Resources Code.

- (1) The name, address and identification number of the complainant;
 - (2) The amount of and reason for the penalty and/or interest assessed by the Division;
 - (3) A clear and concise description of the basis of the complaint; and
 - (4) Any records or other documents supporting the complaint.
- (d) The Director of the Department shall determine whether to grant, partially grant, or deny any relief requested in the complaint, or to refer the matter to the Office of Administrative Hearings. The Director shall mail written notice to the complainant of this determination within 30 days of the date the complaint was received by the Division. For purposes of this subsection, notice shall be deemed complete on the date of the postmark or the date of mailing, whichever is later.
- (e) Interest shall accrue from the date the payment upon which the interest is based was due.

Authority: Sections 14530.5 and 14536, Public Resources Code.

Reference: Sections 14541 and 14591 (c), Public Resources Code.

2607 Persons That Are Certified as Both Processors and Recycling Centers.

- (a) All persons certified as both a processor and a recycling center ("dual certified entities") shall notify any other recycling center delivering materials in advance of delivery whether they are receiving the material as a processor or as a recycling center. All receipts or reports of such transactions requiring the processor or recycling center certification number shall be filled out with the certification number corresponding to the capacity of the dual certified entity for the specific transaction. Persons delivering to dual certified entities acting as recycling centers are not entitled to processing and administrative fees otherwise applicable to deliveries to a processor.

2609 Notice of Disposal.

No processor shall dispose, or have disposed, any material that was at any time redeemable pursuant to the California Beverage Container Recycling and Litter Reduction Act without prior written notice to the Division. Such notice shall clearly identify the place of disposal and shall state that the material being disposed of has been cancelled consistent with the provisions of this subchapter. The notice shall be signed by an authorized representative of the recycling center or processor. The signature block shall state under penalty of perjury that the information in the notice is correct to the best knowledge of the person signing the notice.

For purposes of this section, disposal shall include burning, landfilling, or any other method of handling or processing material that is not consistent with recycling as intended by the Act.

Authority: Sections 14530.5 and 14536, Public Resources Code.

Reference: Sections 14501(h), 14518, and 14519, Public Resources Code.

2610 Computation of Time and Weight.

Time shall be computed or determined in accordance with California Code of Civil Procedure Section 12a. Weight shall be measured, recorded and reported in tons, pounds and fractions thereof. In addition, steel materials may also be measured, recorded, and reported in metric tons. All weights shall be determined by measurement on a scale or other device approved, tested and sealed in a manner approved by the Department of Weights and Measures.

Authority: Sections 14530.5 and 14536, Public Resources Code.

Reference: Sections 14551(b) and 14552, Public Resources Code.

2611 Dates.

The date of any sale or transfer of material shall be deemed to be the date of delivery to the person receiving it. Reports to the Division shall be deemed to be submitted on the date of the postmark or the date received by the Division, whichever is earlier.

rejected containers and any payment made or credit granted therefor.

Authority: Sections 14530.5 and 14536, Public Resources Code.

Reference: Sections 14541 (d), 14552, and 14575, Public Resources Code.

Article 5. Beverage Manufacturer

2710 Applicability.

In addition to the general requirements of Article 3, beverage manufacturers shall comply with the provisions of this article. For purposes of this article only, "beverage manufacturers" shall mean those beverage manufacturers in this State. Persons other than beverage manufacturers need not comply with this article.

Authority: Sections 14530.5 and 14536, Public Resources Code.

Reference: Sections 14530.5 and 14536, Public Resources Code

2711 Recordkeeping.

Beverage manufacturers shall maintain the following records in accordance with the general recordkeeping requirements set forth in section 2603 of this article.

(a) Transactions with Container Manufacturers. Beverage manufacturers shall maintain the following records evidencing the receipt of beverage containers or components thereof. Such records shall include all bills of lading and other shipping documents, and shall contain the following information:

- (1) Date of receipt of shipment;
- (2) Quantity, material type, size, and component type, if applicable, of beverage containers or components in shipment;
- (3) Full name and address of shipper; and

2712 Reporting.

After each month during which a processing fee applies to a beverage container material type sold or transferred by the beverage manufacturer, the beverage manufacturer shall prepare and submit to the Division a report in accordance with the general requirements for reporting contained in section 2604 of this subchapter.

(a) Sales and Transfers of Containers Subject to a Processing Fee. Each report shall contain the following information:

- (1) The number of beverage containers, by material type, sold or transferred during the reporting period which are subject to a processing fee as determined by the Division;
- (2) The processing fee per beverage container and material type ("unit fee") as determined by the Division;
- (3) The processing fee payment for each material type, calculated by multiplying the beverage container count for each material type by the applicable processing fee per container; and
- (4) The total processing fee payment due, which is equal to the sum of the processing fee payments by material type pursuant to subsection (3) above.

(b) Timing of Report. The report shall be submitted monthly within 10 days of the last day of the month covered by the report. Each report shall cover the calendar month immediately preceding the date of submission.

Authority: Sections 14530.5 and 14536, Public Resources Code.

Reference: Sections 14541 (c) and (d), 14552, and 14575, Public Resources Code.

2713 Payments.

Each beverage manufacturer shall pay to the Division all applicable processing fees for the beverage containers that the beverage manufacturer sells or transfers to a distributor or dealer in this state.

- (2) The full name and address of the beverage manufacturer or other originating person; and
 - (3) Date the beverage containers were received by the distributor.
- (b) Sale or Transfer of Beverage Containers. Distributors shall maintain records, by individual sale or transfer, of all redeemable and refillable beverage containers sold or transferred to other distributors, dealers or consumers in this State. The records shall contain the following information:
 - (1) The quantity of redeemable and refillable beverage containers, by material type;
 - (2) The full name and address of the dealer, consumer, or other distributor to whom the redeemable and refillable beverage containers were sold or transferred; and the shipping or destination name and address, if different; and
 - (3) The date the redeemable and/or refillable beverage containers were sold or transferred.
- (c) Reports and Payments to the Division. Distributors shall maintain records of all reports and payments to the Division pursuant to the California Beverage Container Recycling and Litter Reduction Act.
- (d) Return of Refillable Beverage Containers. Distributors shall maintain records of the number of refillable beverage containers returned to the distributor, by material type and by calendar month.
- (e) Rejected Containers. Distributors shall maintain records of any recycling, processing, or other transfer of rejected containers for any reason, and any payments therefor. These records shall include receipts or statements signed by the recycling center, processor or other recipient. Such receipts shall state the weight by material type of the rejected containers and any payment made or credit granted therefor.

Authority: Sections 14530.5 and 14536, Public Resources Code.

Reference: Sections 14537, 14550 (b) and (c), 14571.9 and 14572.5, Public Resources Code.

- (a) Redemption Values. The distributor shall compute total redemption value by material type by multiplying the number of containers of one material type reported pursuant to section 2722 (a) above by the currently effective redemption value per container for that material type. This redemption value per container is determined by the Division pursuant to Section 14560 of the California Beverage Container Recycling and Litter Reduction Act and section 2751(b) of this subchapter. The sum of the individual redemption values by material type thus computed shall equal the total redemption value for the reporting period.
- (b) Administrative Fee. The administrative fee equals one percent (1%) of the total redemption value computed pursuant to subsection (a) above.
- (c) Total Payment Due. The total payment due to the Division for each reporting period is calculated by subtracting the administrative fee pursuant to subsection (b) above from the total redemption value pursuant to subsection (a) above.
- (d) Timing. Payment shall be made within 10 days after the last day of the calendar month covered by the payment. One payment shall be made for each calendar month.
- (e) Recycling Center Handling Fee. The distributor shall negotiate a handling fee with each recycling center which returns, or causes to be returned, empty refillable beer or other malt containers.

Authority: Sections 14530.5 and 14536, Public Resources Code.

Reference: Sections 14572.5 and 14574, Public Resources Code.

Article 7. Recycling Center

2730 Applicability.

In addition to the general requirements of Article 3, recycling centers shall comply with the provisions of this article. Those nonprofit dropoff programs described in section 2735 of this article shall comply with all of the

- (9) The address, vehicle identification number, or other similar information identifying the person selling or donating the material.
- (b) For all purchases or donations with a total redemption value and redemption bonus of less than fifty dollars (\$50.00), the recycling center shall either prepare a receipt pursuant to subsection (a), or shall maintain a log setting forth the information required by subsections (a)(1) through (a)(9) above.
- (c) For all material received from a reverse vending machine owned by the recycling center, the recycling center shall prepare a receipt setting forth the information required by subsections (a)(1) through (a)(7). Redemption value stated on such a receipt shall be based upon the applicable commingled rate, unless it has been demonstrated to the satisfaction of the Division that the reverse vending machine reliably distinguishes between redeemable and nonredeemable material. The receipt shall also indicate the exact location of the reverse vending machine. Recycling centers shall retain such receipts in their records along with the copies of any receipts issued by the machine.
- (d) The recycling center shall retain a copy of any shipping report which the recycling center prepares or receives from another recycling center pursuant to section 2732 of this article.
- (e) The recycling center shall retain a copy of the weight ticket, prepared by the recycling center or provided by the person receiving material from the recycling center, describing the weight of shipped material by material type.
- (f) The recycling center shall retain a copy of any report to the Division for Convenience Incentive Payments prepared pursuant to section 2732 of this article.
- (g) The recycling center shall prepare and retain a receipt setting forth the information required by subsection (a) of this section for any rejected containers.

Authority: Sections 14530.5 and 14536, Public Resources Code.

upon shipping reports received; and (iii) the total of (i) and (ii).

(A) The total weight of redeemable material. Rejected containers shall not be included in this weight.

(B) The total amount of the redemption value and redemption bonus.

(C) For shipments to a processor, any applicable processing fee.

(D) The subtotals of subsections (4)(A), (4)(B), and (4)(C), above.

(5) For shipments to a processor, the amount of the administrative fee which is equal to one percent (1%) of the redemption value.

(6) The total of subsections (4)(D) and (5), above.

(7) The number of shipping reports from other recycling centers which pertain to material included in the shipment.

(8) A statement indicating whether the sale or transfer of the materials which are the subject matter of the report is being handled in any way by a broker. This statement can be made by checking the appropriate box, if provided.

(9) The signature of an authorized representative of the recycling center in accordance with subsection 2604 (b) of this subchapter.

(c) Recycling centers may obtain applicable Convenience Incentive Payments by submitting a report directly to the Division. There shall be a separate report for each convenience zone, and each report shall cover one calendar month. The report shall be submitted monthly within 10 days after the last day of the month covered by the report. The report shall include the following information in addition to that required by section 2604 of this subchapter.

(1) The total weight of material received, by material type, and the weight of redeemable material received, by material type;

(2) The amount of redemption value paid, by material

- (c) The recycling center shall pay the applicable refund value or deposit for any refillable beer or malt container at the time of their delivery to the recycling center. Recycling centers shall return such refillable beer or malt containers to the appropriate distributor for repayment of the deposit and any applicable handling charges.
- (d) Recycling centers shall pay redemption value based upon the applicable commingled rate for beverage containers received from reverse vending machines which are not certified as recycling centers pursuant to Subchapter 1, except as follows. Payment of redemption value at the full redemption value per container shall be made only where the operator or owner of such reverse vending machine has demonstrated to Division's satisfaction that the reverse vending machine reliably distinguishes between redeemable and nonredeemable beverage containers.

Authority: Sections 14530.5 and 14536, Public Resources Code.

Reference: Sections 14572 and 14572.5, Public Resources Code.

2734 Receipt of Funds.

- (a) The recycling center shall receive from the processor the total redemption value and applicable redemption bonus plus one percent (1%) of redemption value as an administrative fee plus a portion of any applicable processing fee as determined by the Division. Such payments shall be based upon the shipping report prepared by the recycling center pursuant to section 2732.
- (b) The redemption value pursuant to subsection 2734 (a) above shall be based upon the applicable commingled rate for reverse vending machines which are certified as recycling centers pursuant to Subchapter 1.
- (c) The recycling center shall receive Convenience Incentive Payments directly from the Division based upon the weight of all redeemable materials reported to the Division pursuant to subsection 2732 (c). The Division may limit the number or weight of redeemable containers to which a Convenience Incentive Payment applies within any particular convenience zone.

from all other persons a record of redeemable materials received by material type, paid redemption values and redemption bonuses by material type, and any applicable processing and administrative fees prepared pursuant to section 2732.

- (b) Weight tickets. Processors shall prepare and retain tickets indicating material and weight of individual loads of containers by material type received from recycling centers and other persons.
- (c) Processor reports to the Division. Processors shall retain copies of reports to the Division pursuant to section 2742.
- (d) Certification of cancellation or final disposition. Processors shall prepare and retain proof of export of redeemable materials from the state, or shipment to location of end use or physical cancellation.

 - (1) For shipments by sea, the proof of export shall be the on-board bill of lading.
 - (2) For other shipments from the State or to a location of end use, the proof of export or shipment shall include a receipt issued by the person receiving the shipment and any applicable bill of lading.
 - (3) For physical cancellation, proof shall be certification signed by the processor in accordance with subsection 2604 (b)(4), identifying the cancelled materials, the date of cancellation, and the method of cancellation, pursuant to subsection 2550 (a)(1)(A), (B), (C), or (D).
- (e) Records of processor to processor transactions. Processors shall prepare and retain a record of all exchanges of materials subject to the California Beverage Container Recycling and Litter Reduction Act. Such records shall identify the shipping and receiving processors and shall also include the date of the shipment, material type, and the weight of the material.
- (f) Notices of Disposal. Processors shall retain any written notices sent to the Division pursuant to section 2609.
- (g) Receipts for rejected materials. The processor shall prepare and retain a receipt setting forth the

total reported redemption bonus, the administrative fees due, and the processing fees due.

(6) A statement indicating whether the materials which are the subject matter of the report are "for recycling" or "not for recycling". This statement can be made by checking the appropriate box, if provided.

(b) Each report shall also include copies of the shipping reports for the period of the report.

(c) Each report shall also contain a shipping report by material type prepared by the processor for each shipment of materials received from any person other than a recycling center. The report shall include the following information.

(1) The name and address or applicable identification number for the person shipping the material to the processor.

(2) The total weight of the material accepted by the processor. Rejected containers shall be included in this weight.

(3) The total weight of redeemable material received.

(4) The amount of redemption value payments paid by the processor.

(5) The total amount of redemption bonuses paid by the processor.

(6) The total amount of applicable administrative fees paid to curbside programs.

(7) The total amount of processing fees paid by the processor to each recycling center or program.

Authority: Sections 14530.5 and 14536, Public Resources Code.

Reference: Sections 14537, 14550, and 14552, Public Resources Code.

of a shipment. In no case shall a processor make any payments pursuant to the Act for materials which the processor has not actually received or which the processor has rejected for any reason.

(b) Payments to curbside programs and nonprofit drop-off programs. Processors shall pay redemption value, redemption bonus, and any applicable processing fees or administrative fees for materials received from curbside programs and nonprofit drop-off programs. Such materials shall be separated by material type and either segregated by redeemables and nonredeemables or commingled. Processors may adjust the redemption value rate to account for shrinkage in the same manner as set forth in subsection 2733 (b).

(1) Substantiation of payment. The processor shall compute the redemption value, redemption bonus, administrative fees and applicable processing fees based upon the materials received for the shipping report prepared pursuant to subsection 2742 (c). The processor shall provide a copy of the shipping report to the shipper.

(2) Calculation of payment and fee.

(A) If materials are segregated, the processor shall make payment based on the actual weight of the redeemable materials multiplied by the average number of beverage containers per pound as set forth in subsection 2751(a)(1)(A), multiplied by the redemption value, redemption bonus and applicable processing fee amount per container for that material type. Administrative fees shall be calculated as one percent of the total redemption value.

(B) If the materials are commingled, the processor shall pay based on actual weight of the materials received by material type multiplied by the applicable commingled rate, multiplied by the redemption value, redemption bonus, and applicable processing fee amount per container for that material type. Administrative fees shall be calculated as one percent of the total redemption value.

(c) Payments to drop-off or collection programs. Processors may receive materials from drop-off or

Reference: Sections 14573, 14575(c), Public Resources Code.

Article 9. Division

2750 Applicability.

The Division shall comply with the provisions of this article. Persons other than the Division need not comply with this article.

Authority: Sections 14530.5 and 14536, Public Resources Code.

Reference: Sections 14530.5 and 14536, Public Resources Code

2751 Determinations.

The Division shall make, and give notice of, the following determinations. For purposes of this section, notice shall be deemed complete upon the date of the postmark or date of deposit in the U.S. mail, whichever is earlier. Notices shall be mailed to the last known address of the intended recipient.

(a) Statistics.

(1) Determination. The Division shall determine the following statistics:

(A) Containers per pound. The average number of beverage containers per pound, by material type. This number is used to calculate the quantity of beverage containers for certain records, reports, and payments required pursuant to this subchapter.

(B) Commingled rate. The average percentage of redeemable beverage containers in a commingled load of containers, by material type. The Division may determine more than one commingled rate; if so, the Division shall also determine the geographic area within which each commingled rate shall apply. This rate is used to calculate the quantity of redeemable beverage containers

(c) Redemption bonus.

- (1) Determination. The Division shall determine the amount of the redemption bonus by calculations pursuant to Section 14581 of the California Beverage Container Recycling and Litter Reduction Act. The redemption bonus amount shall be calculated, or recalculated, at least once every three months after October 1, 1987.
- (2) Notice. The Division shall provide notice of its initial determination of the amount of the redemption bonus and of any subsequent determinations resulting in changes to the redemption bonus.
 - (A) Timing: Notice shall be provided no less than 30 days before the effective date of the determination.
 - (B) Recipients: This notice requirement shall be satisfied by mailing to persons certified pursuant to Subchapter 1.
 - (C) Contents: The notice shall state at minimum the new redemption bonus rate and its effective date.

Authority: Sections 14530.5 and 14536, Public Resources Code.

Reference: Sections 14551 (b), 14553, 14560, and 14581, Public Resources Code.

CALIFORNIA WASTE MANAGEMENT BOARD

Agenda Item # 11

April 21-22, 1987

Item:

Presentation of Draft Regulations on Financial Assurances During Operation

Key Issues:

- o **Models for Coverage Levels Based on Hazardous Waste**
- o **Application of Regulation to Both Public and Private Operators**
- o **Conflict of Statute with Legal Concept of Joint and Several Liability (between Owner and Operator)**

Background:

Government Code Section 66771.7, enacted by AB 3527, Calderon (Chapter 1408, Statutes of 1984), requires disposal facility operators to provide "assurance of adequate financial ability to respond to personal injury claims resulting from the operations of the disposal facility which occur before closure." (emphasis added). The regulations were to have been adopted by January 1, 1986. Board staff have twice studied the matter and tentatively drafted regulations intended to comply with the statutory mandate. These efforts came at a time when it was also becoming known that Comprehensive General Liability insurance was beginning to exclude coverage for pollution damage, and environmental impairment insurance was rapidly becoming unavailable. Preparation of the regulations was delayed awaiting stabilization in the insurance market. Staff also wanted to study federal and other state regulatory development in this area.

The draft regulations, presented as Attachment A, are intended to facilitate beginning the discussion of these regulations. They are based on the Federal (EPA) and State (Department of Health Services-DOHS) models already in place for hazardous waste operations. They are based on the use of insurance as the primary mechanism, with coverage also possible with certain demonstrations of net worth, based on statements of assets, working capital and bond ratings. Other mechanisms, such as corporate guarantees, bonds, trust funds, irrevocable letters of credit, sureties for the private sector operators, and bonds, taxes, current revenues, service charges, and land use fees for the public sector operators are not spelled out but allowed by an omnibus substitution

regulation. Providing appropriate or different financing alternatives for both private and public operators continues to remain a problem. Development of an acceptable regulation may only come from Board and public discussion and workshops.

As drafted, the coverage limits for sudden and nonsudden accidents is the same as the limits established in the DOHS regulations. There was no empirical basis to set different limits for nonhazardous wastes. The reasons for setting the same limits are that first, the management of non-hazardous wastes should not be more costly than the management of hazardous wastes, and secondly, as more is learned about municipal waste there is increased evidence that it is not benign and may have many of the characteristics of hazardous wastes. Whether this is due to the very nature of the wastes or whether it is the result of our current disposal technology/practices is a major unanswered question. Another aspect of this question is the lack of a definable exposure. There is a lack of data and case law to help define what risks are posed by landfill operations and, therefore, the scope of responsibility (duty) of landfill operators (and owners).

Another staff drafter proposed a regulatory schema consisting of a point-system to determine the level of coverage required. That rating schema is attached hereto as Attachment B. Based on staff's analysis, problems do appear to increase with the volume of waste received and the age of the site. This rating system, thus, appears to have some merit. The proper categories and levels of coverage must be selected.

A potential flaw in the legislation is that it requires the development of a regulatory schema affecting landfill operators only. Common and Statute law provides for joint and several liability for landowners as well operator/tenants. Legal theories and mechanisms provide means for operators who are sued to seek indemnity and contribution from landowners, but this regulatory requirement creates a "deep pocket" class of the operators, which could affect the way disposal facilities are operated and rates are set. This problem becomes particularly vexatious in the closure and post-closure mode. These aspects were not considered by the legislation.

Recommendation:

Staff is seeking Board and public comment. Staff believes that one or more workshops may be necessary to ready draft regulations for public notice and hearing for adoption, pursuant to the Administrative Procedure Act (the law that set up the Office of Administrative Law--OAL). Staff is also aware that the adoption of these regulations is overdue. We believe that, notwithstanding

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April 23-24, 1987

Financial Assurance Regulations

any potential difficulties with the underlying legislation, we must make an attempt to adopt workable regulations within the next several months. Based on the time it takes to get regulations through OAL and to conduct workshops, we project that the regulations would not be fully implemented until the late Fall.

Attachments

PROPOSED REGULATIONS

Section 17736. Liability Requirements for Sudden Accidents.

(a) The owner or operator of a disposal site, as defined in Section 66714.1 of the Government Code, shall have and maintain liability coverage for sudden accidental occurrences in the amount of \$1 million per occurrence per facility (or per owner/operator) with an annual aggregate of \$2 million per facility (or per owner/operator), exclusive of legal defense costs.

(b) The liability coverage required under this Section shall be demonstrated by:

- (1) The liability insurance as described in Section 17738; or
- (2) A financial means test as described in Section 17739; or
- (3) Through any combination of the above mechanisms, subject to the condition that the total amount of coverage at least, equals the minimum levels prescribed under paragraph (a) of this section.

Section 17737. Liability Requirements for Nonsudden Accidents.

(a) The owner or operator of a disposal site, as defined in Section 66714.1 of the Government Code, shall have and maintain financial responsibility for personal injury and property damage caused by nonsudden accidental occurrences arising from operations of a (permitted) facility.

(b) The owner or operator shall have and maintain liability coverage for nonsudden accidental occurrences in the amount of at least \$3 million per occurrence with an annual aggregate of at least \$6 million, exclusive of legal defense costs.

(c) This liability coverage shall be demonstrated by:

- (1) Liability Insurance, as described in Section 17738; or
- (2) A financial means test, as described in Section 17739; or
- (3) Through any combination of the above mechanisms subject to the condition that the total amount of coverage, at least, equals the minimum coverage levels prescribed under paragraph (b) of this Section.

Section 17738. Liability Insurance Requirements.

(a) An owner or operator may satisfy the required liability coverage by having liability insurance, as described in this section.

(b) At a minimum, the insurers shall be licensed to conduct the business of insurance in California, or be eligible to provide insurance as an excess or surplus lines insurer.

(c) Any operator who demonstrates full or partial liability coverage, as required in Section 17736 and in Section 17737, by the use of liability insurance shall name the owner as an insured party.

(d) Any owner who demonstrates full or partial liability coverage, as required in Section 17736 and Section 17737, by the use of liability insurance shall name the operator as an insured party.

(e) Nothing herein as be construed as requiring that both the owner and operator have and maintain liability insurance. Rather, the requirement of liability coverage is imposed upon the landfill. The decision as to who shall be the responsible party is a matter to be resolved between the owner and operator.

(f) The owner or operator, as appropriate, shall submit a copy of the insurance policy endorsement and the Certificate of Insurance to the Enforcement Agency. Both documents shall contain original signatures. If requested by the enforcement agency or the Board, the owner or operator shall provide a copy of the insurance policy which shall contain original signatures.

(g) The owner or operator shall submit the required evidence to the enforcement agency at least 30 days prior to the insurance, modification or revision, as applicable, of a solid waste facilities permit. For those disposal sites that are subject to periodic site review under Section 17751 of Title 14 of this Administrative Code, the required evidence of insurance coverage shall be submitted with the report required under the Section.

Section 17739. Financial Means Test.

(a) An owner or operator may satisfy the liability coverage requirements by demonstrating that the owner or operator passes the financial test specified in this section. In order to pass this test, the owner or operator shall meet the criteria of subsection (a)(1), (a)(2) or (a)(3).

(1) The owner or operator shall have and maintain:

(A) Net working capital and tangible net worth each at least three times the amount of liability coverage required to be demonstrated; and

(B) Tangible net worth of at least \$10 million; and

(C) Assets in the United States amounting to either: (1) at least 90 percent of total assets; or (2) at least three times the amount of liability coverage to be demonstrated by this test; or

(2) The owner or operator shall have and maintain:

(A) A rating for the most recent bond issuance of BBB or better as issued by Standard and Poor's, or Baa or better as issued by Moody's; and

(B) Tangible net worth of at least \$10 million; and

(C) Tangible net worth at least three times the amount of liability coverage required to be demonstrated by this test; and

(D) Assets in the United States amounting to either:

(1) At least 90 percent of the total assets; or

(2) At least three times the amount of liability coverage to be demonstrated by this test.

(3) An owner or operator may demonstrate the required liability coverage by means of a mechanism other than those specified in Sections 17738 and 17739, provided that:

(A) The proposed mechanism be at least financially equivalent to the mechanisms described in Sections 17738 and 17739; and

(B) The proposed mechanisms with numeric examples be submitted to and approved by the enforcement agency prior to its use.

At a minimum, the enforcement agency shall evaluate the equivalency in terms of:

(1) Certainty of the availability of funds necessary for the required amount of liability coverage; and

(2) The amount of funds that will be made available to respond to sudden and nonsudden accidental occurrences.

(b) The owner or operator shall submit to the enforcement agency a description of the proposed mechanism to satisfy this financial test along with a letter signed by the owner's or operator's chief financial officer. The letter shall be on official letterhead stationery of the owner or operator and shall contain an original signature.

In addition, the owner or operator shall submit the following items to the enforcement agency:

(1) A copy of the owner's or operator's financial statements for the latest completed fiscal year, or a copy of an independent certified public accountant's, which is licensed in California, report on examination of the owner's or operator's financial statements for the latest completed fiscal year.

(2) A special report by the owner's or operator's independent certified public accountant to the owner or operator stating that:

(A) The independent certified public accountant has compared (analyzed) the data in the application under this Section with the amounts in the year-end financial statements for the latest completed fiscal year; and

(B) In connection with that procedure, no matters come to the independent certified public accountant which caused him or her to believe that the specified data should be adjusted.

(C) A copy of the owner's or operator's most recent Form 10-K or Form 10-Q filed with the United States Securities and Exchange Commission if the owner or operator is required to make such a filing.

(D) An owner or operator shall submit the items required in this section to the enforcement agency in the application for the solid waste facilities permit.

(E) An owner or operator shall submit updated information to the enforcement agency within 90 days after the close of each succeeding fiscal year. This information shall consist of all items described in subsection (c) of this section.

(F) If the owner or operator no longer meets the requirements of subsection (a) of this section, insurance shall be obtained for the entire amount of required liability coverage. Evidence of the required insurance pursuant to Section 17738 shall be submitted to the enforcement agency within 90 days after any occurrence that prevents the owner or operator from meeting the financial test requirements.

Section 17740. Failure to Maintain Coverage.

(a) The enforcement agency may, based on a reasonable belief that the owner or operator no longer meets the requirements of Sections 17738 or 17739 or 17740, require, at any time, the submission of reports of financial condition which are in addition to those items required in specified sections. Such

reports shall be filed with the enforcement agency within 30 days after notification by the enforcement agency.

(b) If the enforcement agency determines that an owner or operator no longer has the required amount of liability coverage, the enforcement agency shall file, in accordance with Section 18307 of Title 14 of this Code, with the hearing panel an accusation to initiate an action to modify, suspend, or revoke the permit.

Section 17741. Period of Coverage.

An owner or operator shall continuously provide liability coverage for a facility as required by this article until certification of closure of the facility.

Section 17742. Incapacity of Owners or Operators, Guarantors or Financial Institutions.

(a) An owner or operator shall notify the enforcement agency by registered or certified mail within ten working days of the commencement of a voluntary or involuntary proceeding under Title 11 (Bankruptcy), U. S. Code, naming the owner and operator as debtor.

(b) An owner or operator who has satisfied the liability coverage requirements by obtaining a trust fund, surety bond, letter of credit, corporate guarantee or insurance policy shall be deemed to be without the required liability coverage in the event of bankruptcy of the trustee, guarantor or issuing institution, or a suspension or revocation of the trustee institution to act as trustee or of the institution issuing the surety bond, letter of credit or insurance policy to issue such instruments. The owner or operator shall establish liability coverage within 90 days after such an event.

DEFINITIONS

Section 17225.75. Accidental Occurrence.

"Accidental Occurrence" means an accident, including continuous or repeated exposure to conditions, which results in bodily injury, property damage or environmental degradation neither expected nor intended from the standpoint of the insured/operator.

Section 17225.76. Assets.

"Assets" means all existing and all probable future economic benefits obtained or controlled by a particular entity.

Section 17225.77. Bodily Injury.

"Bodily injury" means an injury that causes physical pain, illness or any impairment of physical condition.

Section 17225.78. Current Assets.

"Current Assets" means cash or other assets or resources commonly identified as those which are reasonably expected to be realized in cash or sold or consumed during the normal operating cycle of the business.

Section 17225.79. Current Liabilities.

"Current Liabilities" means obligations for which liquidation is reasonably expected to require the use of existing resources properly classified as current assets or the creation of other current liabilities.

Section 17225.80. Independently Audited.

"Independently Audited" means an audit performed by an independent certified public accountant, licensed to practice in California, in accordance with generally accepted auditing standards and practices.

Section 17225.81. Legal Defense Costs.

"Legal Defense Costs" means any expenses that an insurer incurs in defending against claims of third parties brought under the terms and conditions of an insurance policy.

Section 17225.82. Liabilities.

"Liabilities" means probable future sacrifice of economic benefits arising from present obligations to transfer assets or provide services to other entities in the future as a result of past transaction or events.

Section 17225.83. Net Working Capital.

"Net Working Capital" means current assets minus current liabilities.

Section 17225.83. Net Worth.

"Net Worth" means total assets minus total liabilities and is equivalent to owner's equity.

Section 17225.84. Nonsudden Accidental Occurrences.

"Nonsudden accidental occurrence." means an unforeseen and unexpected accident which takes place over time, involves continuous or repeated exposure and results in bodily injury, property damage or environmental degradation.

Section 17225.85. Property Damage.

"Property damage" means an injury to property which deprives its owner of the benefit of the property by taking, withholding, deteriorating or destroying it.

Section 17225.86. Sudden Accidental Occurrence.

"Sudden Accidental Occurrence" means an unforeseen and unexpected accident which is not continuous or repeated in nature and results in bodily injury property damage or environmental degradation.

Section 17225.87. Tangible Net Worth.

"Tangible net worth" means the tangible assets that remain after deducting liabilities; such assets do not include intangibles such as goodwill and rights to patents or royalties.

A. Total Waste Disposed of to Date:

- ☐ 1) 10,000 tons or less
- ☐ 2) 10,000 to 25,000 tons
- ☐ 3) 25,000 to 50,000 tons
- ☐ 4) 50,000 to 100,000 tons
- ☐ 5) Over 100,000 tons

B. Permitted Waste Remaining to be Disposed of

- ☐ 1) 10,000 tons or less
- ☐ 2) 10,000 to 25,000 tons
- ☐ 3) 25,000 to 50,000 tons
- ☐ 4) 50,000 to 100,000 tons
- ☐ 5) Over 100,000 tons

C. Population Within a Five Mile Radius

- ☐ 1) 5,000 or less
- ☐ 2) 5,000 to 10,000
- ☐ 3) 10,000 to 25,000
- ☐ 4) 25,000 to 50,000
- ☐ 5) Over 50,000

D. Type of Financial Assurance

- ☐ 1) Insurance
Cash (or equivalent) Deposit
Corporate Guarantee
Net Worth (Financial) Test
- ☐ 5) Bonds, Performance
Trust Fund
Irrevocable Letter of Credit
Surety
- ☐ 10) Bonds, Revenue
General Obligation
Joint Powers Agency
Special District
Financial Guarantee
Taxes, Ad Valorem
Enterprise
Current Revenues
Service Charges
Land Use Fee
Short Term Notes or Warrants
Escrow Account

E. Public On Site

- 1) 0 Private Vehicles Per Day
- 2) 1 to 33 Private Vehicles Per Day
- 3) 34 to 66 Private Vehicles Per Day
- 4) 67 to 99 Private Vehicles Per Day
- 5) 100 or more Private Vehicles Per Day

F. Distance to Nearest Drinking Water Well

- 1) Over 1 mile
- 2) 1 to 3/4 mile
- 3) 3/4 to 1/2 mile
- 4) 1/2 to 1/4 mile
- 5) 1/4 mile or less

POINT SUMMARY TO DETERMINE MINIMUM AMOUNT OF FINANCIAL
ASSURANCE REQUIRED

Points.	Minimum Required Financial Assurance
6	\$5 million
7 - 12	6 million
13 - 18	7 million
19 - 24	8 million
25 - 30	9 million
31 or more	10 million

I have reviewed this form and, in my opinion, it is correct.

L.E.A. Representative

CALIFORNIA WASTE MANAGEMENT BOARD

AGENDA #12

April 21 - 22, 1987

Item:

Discussion of a scope of work for developing regulations for Waste-to-Energy resource recovery facilities.

Key Issues:

- 1) Under Section 66770 of the Government Code, the Board is directed to adopt minimum standards for the handling and disposal of solid waste so as to protect the public's health and the air, land, and water from pollution. Specific standards have been adopted for the collection, transfer, and disposal of wastes at landfills.
- 2) Specific regulations for waste-to-energy (WTE) facilities have not yet been adopted that address the unique concerns of plant operation, safety, and environmental protection.

Background:

At the January meeting, the Board identified the need for regulations for Waste-to-Energy facilities as a high priority. The following is a summary of need for such regulations and standards and an outline of concepts which should be considered.

The regulations and standards should guide the planning, siting, and operation of WTE facilities to ensure that the facilities present little or no threat to the health and safety of the public and to the environment.

Components of the proposal include planning requirements, permitting procedures, and standards. They should link existing regulations and permitting procedures of agencies like the ARB and the WRCB to the SWF permit. The elements to be linked are:

AIR QUALITY - New Source Review, Prevention of Significant Deterioration, Best Available Control Technology, offsets, modeling, and toxic air contaminants

WATER QUALITY - land disposal (ash), ground and surface water protection

HEALTH - ash testing (WET), health risk assessments from effects of trace metals, dioxins etc.

Planning for WTE facilities should be through the County Solid Waste Management Plans and included at the earliest stage possible. The Plans should be used to evaluate site alternatives and the possible effects on air, land, and water quality, waste supply, traffic, disposal costs and landfill capacities and determine public acceptance. Also included in the Plan would be the cumulative effects of all WTE facilities proposed for the county. Time for public review and comment should be included. The public should be notified of all sites under consideration and involved in final selection. It would be beneficial to have public opposition aired and responded to at this time rather than at a more advanced stage when a significant investment had been made.

Standards for WTE facilities must cover environmental, health, safety, and operational parameters as well as provide direction for keeping records and regularly reviewing the facilities operation. Emission standards could be linked to existing Air Quality standards and limits for non-regulated substances such as trace metals and dioxins. Plant operation standards could include safety, vector control, hours of operation, pollution control equipment, ash handling, and public education.

Attached is a copy of "Concepts for Waste-to-Energy Regulations".

Recommendation:

For discussion only.

**Concepts for
Waste-to-Energy Regulations**

DRAFT

Intent

The Regulations are intended to guide the planning and operation of waste-to-energy plants and to ensure that these facilities present a minimum threat to public health, safety, and well-being and the environment.

Planning

(Authority: Sections 66780, 66780.1, 66780.2, 66780.6)

The introduction stage of a waste-to-energy project is critical. The County Solid Waste Management Plans (CoSWMP) and the associated planning process offer an ideal opportunity to identify acceptable waste management technologies and sites. Because of the sensitivity about waste-to-energy projects, greater guidance is needed in the timing and manner in which projects are included in plans. The process should also promote greater commitments to technologies and sites identified in plans. This in turn will promote thorough public review of proposals and a better feeling for the likelihood of success for project proponents before a large commitment of funds.

CoSWMP regulations should be revised for planning waste-to-energy facilities to address the following:

1. **Public Notice.** The public notice of the County plan revision should include a notice of proposed new facilities including waste-to-energy facilities.
2. **Public Involvement.** Programs for public involvement in the planning process should be established; also public education/relations efforts presenting needs, limitations, choices, reasoning, etc.
3. **County and Regional Considerations.** Planning and siting of waste-to-energy (WTE) facilities should consider both county and regional factors. All facilities proposed for a given region should be

assessed jointly and included in the County Solid Waste Management Plans (CoSWMP) at an early stage in development, preferably before site selection is complete.

4. **Environmental Considerations:** Each facility should be incorporated in the Plan after assessment of the environmental and waste management effects have been determined. Facilities should be sited appropriately with regard to existing air quality, availability of offsets or growth allowances, current transportation patterns and routes, and ash disposal methods.
5. **Recycling.** Facilities should encourage materials separation and recycling, economic basis of facility should not preclude recycling, design should allow sufficient room at facilities for future recycling operations.
6. **Conformance.** Many projects need some sort of regulatory statements which can assure investors that a project can be built. In the past, projects have requested permits for this sort of assurance. However, the findings of conformance may be a more appropriate action to meet this need. Consideration should be given for separating this finding from the permit actions for WTE facilities.

Permitting

(Authority: Section 66796.33)

To help ensure the proper operation of the facility and to allow the facility to open and operate without threat of legal actions, it is important to have a logical, understandable permit process and appropriately written permits. The permitting of WTE facilities requires a special set of findings beyond those required for other solid waste facilities. There has been controversy on how those findings are made. Regulations for this stage should clarify ambiguities.

The regulations for permitting of WTE facilities should address the following:

1. **Special Findings.** LEA's must make the following findings required in Section 66796.40 of Title 7.3 of the Government Code before issuing a Solid Waste Facilities Permit.
 - Board concurrence on issuance of permit
 - consistant with state solid waste management goals

- has a defined source of waste
- has a contract guaranteeing a waste supply
- is compatible with recycling efforts. Further definition of the meaning of these findings, as well as the kinds of evidence needed to make the finding, should be addressed.

2. **Necessary Permits.** Facilities must have the necessary environmental reviews done and certain permits and approvals from other local and state regulatory agencies before the Board will concur in the permits. These reviews and permits should be identified.
3. **Risk Assessment.** Because of the public's concern, and because of air permitting requirements, risk assessment must be performed. These assessments include effects from criteria air pollutants, identified toxic air contaminants (TAC), possible future TACs, short and long term effects. The Board should consider making such a requirement before a proponent may apply for a permit.
4. **Documentation.** The accompanying documentation should include a Report of Station Information (RSI) which includes a complete description of facility design and operation: characteristics of wastes received, waste handling, prohibitions, handling of hazardous wastes, hours of operation, and contingency plans.
5. **Ash.** Requirements for monitoring ash characteristics as well as the handling and disposal of ash should be required to be included in permit conditions.
6. **Mitigation Requirements.** Mitigation measures for all identified adverse environmental effects should be required to be included in permit conditions or the RSI.
7. **Revoking permits.** Procedure for revoking permits should be reviewed to determine its applicability to WTE facilities. Any further clarification should be included in the regulations.
8. **Reliability.** The amount of time the facility is expected to be available for processing waste should also be required to be included in the permits.

Standards

(Authority: Sections 66770, 66771, 66771.7, 66772)

The State minimum standards govern the operation of the facilities. They also govern how the facility is monitored for its environmental performance, as well as identifying what records must be kept about the facility's performance. The standards for WTE facilities should build on those for transfer and processing stations. The standards also must be compatible with other existing environmental and health regulations designed to protect public health and environmental quality.

The minimum standards should be revised to address the following:

RSI. The Report of Station Information should include a complete description of the design and operating instructions for the facility.

Air Pollution. Performance standards referencing applicable air standards should be prescribed. Consideration should be given to setting standards for dioxin and other TAC's.

Ash. The transport of hazardous residues from facilities should be prohibited. All hazardous ash should be treated and rendered non-hazardous before leaving a facility. Also the frequency of monitoring and testing ash should be addressed.

Reliability. Standards for reliability should be considered.

Public Access. Public access and use, educational tours, inspections - procedure to answer questions or concerns of the public on plant operation, procedure for reporting emissions to the public.

Landfill Backup. Availability of a landfill for ash disposal and as back up during facility down time

SCHEDULE

5/15/87	Initiate Studies
8/30/87	Draft Regulations
8/30 - 10/31/87	Public Hearings
11/15/87	Send to OAL
2/1/88	Regulations in Place

CALIFORNIA WASTE MANAGEMENT BOARD

Agenda Item #13

April 21-22, 1987

Item:

Discussion of a Scope of Work for developing regulations to govern closure and post-closure activities at solid waste landfills.

Key Issues:

- o An adequate regulatory framework to govern closure and post-closure activities at solid waste landfills is not included in the State Minimum Standards.
- o Local Enforcement Agencies lack the regulations necessary to ensure proper closure and post-closure actions.

Background:

California currently has over 500 closed landfills and more are closing each year. All these sites are producing some amount of flammable methane gas and many are generating leachate that can potentially contaminate ground water. In addition most have subsidence and surface maintenance problems. As time passes, development will encroach on these facilities and in some cases this has already occurred. City and county planners as well as land developers will pursue using acreage on or near landfills for various purposes including residential construction.

Board regulations are needed to ensure that sites that are closing have proper closure plans and that the maintenance and mitigation features included in these plans are carried out. Sites that are closed need regulations to ensure site maintenance and to ensure that if they are developed for their potential as usable land the development is done properly with public health and safety in mind.

The existing regulations and permitting procedures at agencies like the Environmental Protection Agency, the Regional Water Quality Control Boards, the Department of Health Services, the Air Pollution Control Districts, and of city and county governments must be meshed with new Board closure and post-closure regulations. Issues needing inter-agency coordination will include; water quality (ground and surface), air quality (area and point source emissions), surface maintenance, gas migration (methane and toxic trace gases), construction requirements (on site and adjacent property), and public health.

Recommendation:

A concept for closure and post-closure regulations as well as a summary of tasks and time frames for developing closure and post-closure regulations is provided to the Board as a discussion item. The staff does, however, seek the guidance and direction of the Board in this regulation drafting effort.

Concept for Closure
and Post-Closure Regulations

Intent:

The proposed regulations would be intended to provide proper closure guidelines for currently operating solid waste disposal sites and to ensure that closed facilities can be maintained in a safe and environmentally sound manner.

Planning (Authority: Government
Sections 66783 and 66790)

Existing planning regulations give very little attention to the issues of closure and post-closure at solid waste landfills. These regulations are contained in Section 17134 and they require County Solid Waste Management Plans (CoSWMPs) to "indicate those solid waste facilities which will be phased out in the short-term planning period" and "address the land use upon completion and closure of a solid waste facility". The CoSWMPs are also required to "locate and describe all public and privately owned solid waste facilities".

The existing planning regulations should be modified and expanded to accomplish the following:

A separate closure and post-closure element should be required for all CoSWMPs. This element should contain the closure and post-closure requirements already mandated by existing federal, state, and local regulations. In addition, the element should require a statement of possible environmental and public health impacts as well as an estimate of the quantity and type of wastes in place and their location on the site. The element should also outline generic closure and post-closure programs.

Permitting Procedures (Authority: Government
Code Section 66796.33)

Current permit regulations designate the Local Enforcement Agency (LEA) as the agency with the authority to issue solid waste facility permits and to revise these permits if there will be a significant change in the design or operation of a facility.

Permits are issued and revised to "ensure that primary consideration is given to preventing environmental damage and that the long-term protection of the environment is the guiding criteria".

New permitting regulations for closure and post-closure at solid waste landfills should be written to accomplish the following:

- New solid waste landfill permits should include a written closure plan which will be a condition of the permit.
- New solid waste landfill permits should provide for development of a post-closure plan. The post-closure plan must address post-closure care for a specified period after the date of completing closure.
- New permits should include a provision requiring that the land owner or operator give proper notice on completion to the local land use authority. This notice should include a survey plat indicating the location and dimensions of landfill cells with respect to permanently surveyed benchmarks.
- New solid waste landfill permits should also contain a provision requiring notation on the deed of the disposal facility property notifying potential purchasers that the land has been used for the disposal of solid wastes.
- New permits should require closure activities to be under the direct supervision of a registered civil engineer or certified engineering geologist.

Standards:

(Authority: Government Code Sections 66770, 66771, and 66790).

Current regulations in Title 14, Chapter 3 contain only 6 sections that relate to closure and post-closure activities at solid waste landfills. These regulations should be strengthened by adding closure and post-closure regulations to accomplish the following:

- Closed landfills will have to meet existing air quality standards for point source (flares) and area source air emissions of waste decomposition products
- Additional standards are needed for site maintenance and leachate mitigation measures to minimize the post-closure escape of leachate to ground and surface waters.
- A standard is needed allowing enforcement of all provisions of the closure and post-closure plan mentioned in permitting procedures above.
- Standards are needed for new and existing landfills requiring owners and/or operators to demonstrate financial responsibility for closure and post-closure care costs.
- Standards are needed governing the excavation of closed landfills and governing the hauling and disposal of all excavated wastes.
- If hazardous wastes are discovered at closed solid waste landfills, a standard is needed which delineates appropriate response.
- Closed solid waste landfills should have standards requiring permanent monuments from which the location and elevation of wastes, structures, and monitoring facilities can be determined throughout the post-closure maintenance period.
- The closure and post-closure at solid waste facilities not mentioned in the current State Minimum Standards, should be addressed in the above mentioned standards. Some examples of such facilities are surface impoundments, woodwaste disposal sites, non-hazardous ash disposal areas, sludge ponds and non-hazardous geothermal waste ponds.

DEVELOPMENT STRATEGY

It is estimated that the time necessary to complete a final draft of new closure and post-closure regulations is one year. Staff time necessary to complete the final draft regulation is estimated to be nine person months of technical staff and one person month of legal staff time.

The following matrix presents the estimated times of completion for the major activities necessary to draft new closure and post-closure regulations for solid waste landfills.

Dates	Activity
5/04-6/15/87	With Board attorney complete syllabus of regulations and expertise needed.
6/22-11/30/87	Draft new regulations including DOHS regulations.
6/29/87	Set up an advisory group consisting of LEAs, and State agencies (ARB, DOHS, WQCB).
11/30-1/30/88	Write digest for OAL and statement of reasons. Write Notice of Proposed Action.
1/13/88	Issue Proposed Action.
2/28/88	Solicit and incorporate informal comments.
4/15/88	Formal public hearing/workshop.
5/30/88	Send final regulations to OAL.
5/30-	OAL review (4 to 8 months).

CALIFORNIA WASTE MANAGEMENT BOARD

Agenda Item # 14

April 21-22, 1987

ITEM:

Status of Delinquent County Solid Waste Management Plans (CoSWMPs)

KEY ISSUES:

- o 53 CoSWMPs are complete and current.
- o 4 CoSWMPs are technically "delinquent" as compared to 31 in June, 1985.
- o 1 CoSWMP Revision, San Diego, will be considered at this Board meeting.
- o Mariposa CoSWMP Revision is scheduled to be resubmitted in April, 1987.
- o Marin CoSWMP Revision is scheduled to be resubmitted in May, 1987.
- o Alameda County is preparing an expedited timetable for the resubmission of the CoSWMP Revision.

BACKGROUND:

Staff has prepared an update to the previous CoSWMP Revision status reports. This status report is divided into three sections, according to the degree of Plan completion:

Section I is a listing of fifty-three (53) counties with complete and current Plans. The date of the next Plan Review Report is also included.

Section II includes one (1) delinquent county that has submitted a CoSWMP Revision to the Board.

Section III is a listing of three (3) counties that have brought Revisions to the Board for approval, but the Board has disapproved the Revisions.

I. The following counties are current. The date of the next Plan Review Report is listed below.

1. Contra Costa**	Revision in Progress
2. Kings**	Revision in Progress
3. San Francisco*	Sept. 1986
4. Kern+	Nov. 1986
5. Sacramento++	Jan. 1987
6. Mendocino+++	Feb. 1987
7. Solano*	Feb. 1987
8. Humboldt	June 1987
9. Napa*	June 1987
10. Plumas	Oct. 1987
11. Sutter-Yuba	Nov. 1987
12. Siskiyou	Dec. 1987
13. Del Norte	Dec. 1987
14. San Mateo	Dec. 1987
15. Glenn	Jan. 1988
16. Orange	Feb. 1988
17. Madera	Feb. 1988
18. Alpine	Mar. 1988
19. Imperial	Apr. 1988
20. Amador	May 1988
21. Riverside	May 1988
22. Santa Cruz	June 1988
23. Nevada	June 1988
24. Shasta	June 1988
25. El Dorado	June 1988
26. Ventura	July 1988
27. Lake	Aug. 1988
28. Santa Clara	Aug. 1988
29. Inyo	Aug. 1988
30. Mono	Aug. 1988
31. San Benito	Aug. 1988
32. Fresno	Sept. 1988
33. Tuolumne	Oct. 1988
34. Yolo	Nov. 1988
35. Trinity	Nov. 1988
36. Tehama	Dec. 1988
37. Butte	Dec. 1988
38. Placer	Jan. 1989
39. Monterey	Feb. 1989
40. Los Angeles	Mar. 1989
41. Sonoma	Apr. 1989
42. San Bernardino	May 1989
43. Stanislaus	June 1989
44. Lassen	July 1989
45. Merced	July 1989
46. Santa Barbara	Sept 1989
47. San Joaquin	Oct. 1989
48. Calaveras	Dec. 1989
49. San Luis Obispo	Dec. 1989
50. Tulare	Dec. 1989
51. Colusa	Dec. 1989
52. Sierra	Jan. 1990
53. Modoc	Mar. 1990

* Board staffs reviewing the Plan Review Report.

** Currently preparing the second Revision.

- + The Plan Review Report was due on November 17, 1986. In February 11, 1987, Board staff informed County that the Plan Review Report was overdue.

The County has prepared a draft Plan Review Report, which will be reviewed by the Solid Waste Advisory Committee in April. The final Plan Review Report should be submitted to this Board by the end of April.

- ++ Sacramento County's Plan Review Report was due in January, 1987. Staff has already received a preliminary assessment of the Report. The County has indicated a need to revise and has committed staff for the revision.
- +++ County has submitted a draft Plan Review Report. Final Plan Review Report is expected in early April.

II. Recently Submitted CoSWMP Revisions

One delinquent county, San Diego, has submitted a CoSWMP Revision to the Board. The San Diego CoSWMP Revision will be considered at this Board meeting.

III. Disapproved Revisions

<u>County</u>	<u>Original Date Revision Due</u>	<u>Date Revision Submitted</u>	<u>Due Date of Resubmittal</u>
Mariposa	March, 1981	December, 1985	April, 1987
Marin	March, 1984	August, 1986	May, 1987
Alameda	December, 1986	December, 1986	*

* To be determined after revised timetable is submitted.

Alameda, Mariposa and Marin counties have previously submitted final CoSWMP Revisions to the Board. All three CoSWMP Revisions have been disapproved by this Board. Below is specific information on each county's CoSWMP Revision status:

Mariposa County

09/22/86

The Board postponed approval of the CoSWMP Revision until the April, 1987, meeting to allow information from consultant's study to be incorporated into the CoSWMP Revision.

11/21/86

Letter sent by Board informing County of action on CoSWMP Revision.

1/21/87

Staff met with the CoSWMP Liaison and a member of the Planning Department to discuss the incorporation of information from the consultant's study into the CoSWMP Revision and the remaining requirements for submitting the CoSWMP Revision.

02/20/87

Consultant's study was submitted to County.

03/04/87

County Task Force met to review consultant's study and to extrapolate relevant study information for the CoSWMP Revision. Board staff in attendance.

04/07/87

Final CoSWMP Revision scheduled to be heard by Board of Supervisors.

04/15/87

New submittal date for CoSWMP Revision.

Marin County

11/11/86

Board disapproved CoSWMP Revision because it was inadequate in a number of areas.

12/05/86

Letter from Board sent notifying County of Board action.

03/17/87

Staff phoned the CoSWMP Liaison, Mr. Eric Borgwardt of the Marin County Planning Department. He stated that the draft CoSWMP Revision was shortly being sent to this Board and the County Solid Waste Committee for review. The County also requested a meeting with Board staff to discuss CoSWMP Revision contents.

05/11/87

New submittal date for CoSWMP Revision.

Alameda County

3/26/87

Board disapproved CoSWMP Revision, because it was incomplete and inadequate in a number of areas. Board also requested a timetable for expediting CoSWMP Revision.

CALIFORNIA WASTE MANAGEMENT BOARD

Agenda Item #15

April 21-22, 1987

Item:

Consideration of Approval of the San Diego County Solid Waste Management Plan Revision

Key Issues:

- Second CoSWMP Revision is delinquent, submitted 65 days late
- 15 of 18 cities, representing 94.6% of the population of incorporated area, have approved the Revision
- Disposal Capacity should be adequate through 1998
- Replacement facilities are planned for the short term
- Revision adequate except for economic feasibility of preferred waste-to-energy program

Background:

The first revision of San Diego County Solid Waste Management Plan (CoSWMP) was approved by the Board on November 18, 1982. Since then, one CoSWMP Amendment, which identified the proposed Ysidora Basin Landfill and the new location for the proposed San Diego Energy Recovery (SANDER) Project, was approved by the Board in March, 1986.

On November 18, 1982, the County of San Diego submitted a Plan Review Report, in accordance with the provisions with Government Code Section 66780.5. On March 12, 1986, the Board accepted the Report and directed the County to revise the Plan in the following areas:

- (1) Identification of Solid Wastes
- (2) Storage and Collection of Solid Wastes
- (3) Disposal and Processing of Wastes
- (4) Resource Recovery
- (5) Plan Administration
- (6) Economic Feasibility
- (7) Enforcement Program
- (8) Implementation Schedule

A draft CoSWMP Revision was submitted to Board staff in July, 1986. The draft document was reviewed by staff, and comments on the draft CoSWMP Revision were sent to the County in August, 1986.

County Characteristics and Solid Waste System:

San Diego County is located in the extreme southwestern corner of the State. The County is divided into two geographic regions; the densely populated Coastal Region, located between the Pacific Ocean and Coastal Range, and the sparsely populated Interior Region, the remaining portion of the County east of the Coastal Range. Its population is approximately 2.2 million and is projected to increase to 2.7 million by the year 2000. There are eighteen incorporated cities in the County, with City of San Diego serving as the County seat.

In 1986, nearly 3.3 millions tons of nonhazardous waste was generated (approximately 1.4 tons per person annually). Waste quantities are projected to increase at a 5% per annum rate. This high rate of increase is attributed by the County to significant population increases, a good economy and increased construction.

The County estimated that over 100,000 tons are recycled annually, approximately 3% of the waste generated in the County. Current recycling activities included curbside programs in the cities of Oceanside, Solana Beach and Vista, and the operation of 39 drop-off and buy-back recycling centers. Other waste diversion programs include chipping of vegetal and wood wastes at the City of San Diego Landfill and at various County facilities.

Residential refuse collection services in the incorporated and unincorporated areas of the County, with the exception of the City of San Diego, is provided by private collection firms. Commercial wastes are collected by private firms in all cities and the unincorporated areas of the County. For 11 out of 18 cities, collection is mandatory; while in the unincorporated areas of the County it is not mandatory.

In the Coastal Region, wastes, with the exception of those which are processed through the one small private transfer station, are direct-hauled to one of a number of close-in landfills.

Wastes in the Interior Region are deposited by residents in a number of small volume transfer stations located throughout the region; wastes from these facilities are then transferred to one of four County landfills.

In 1986, approximately 3.2 millions tons of wastes were disposed of in two city, two military and five county landfills. The County projects that disposal capacity should last through 1998.

Revision Features:

This section briefly summarizes the significant information by Chapter that is included in the CoSWMP Revision.

The final CoSWMP Revision was approved by the Board of Supervisors on October 14, 1986 (see Attachment 1). The final CoSWMP Revision was then sent to the eighteen cities for approval. Fourteen of the eighteen cities in the County, representing 92% of the population of the incorporated area, approved the CoSWMP Revision by resolution. One city, Carlsbad, representing 2.6% of the population of the incorporated area of the County, took no action on the CoSWMP Revision, bringing the total number of cities approving the CoSWMP Revision to fifteen (see Attachment 2). Government Code Section 66780.5 and the California Administrative Code Section 17147 state that if no action is taken by a city within the required 90 day review period for the CoSWMP Revision, a city is deemed to have approved the CoSWMP Revision.

Three cities (Del Mar, Encinitas and Vista), representing 5.4% of the population in incorporated areas, disapproved the CoSWMP. The CoSWMP Revision's reliance on waste-to-energy and its inadequate consideration of recycling and other resource recovery alternatives were the reasons given by both the cities of Encinitas and Del Mar for disapproving the Plan. The City of Vista disapproved because of the identification of a potential landfill replacement site in the CoSWMP Revision, which was in close proximity to the city.

The final CoSWMP Revision was received by the Board on February 6, 1987 (see Attachment 3). This was 65 days past its original submittal due date of December 13, 1986.

Copies of the CoSWMP Revision have been provided to all members of the Board. The CoSWMP Revision was also circulated for review and comment to the State Department of Health Services, State Water Resources Control Board, Regional Water Quality Control Boards for the San Diego and Colorado River Regions, State Air Resources Board, and the San Diego County Air Pollution Control District.

Only the State Water Resources Control Board (Water Board) provided comments on the CoSWMP Revision. The Water Board staff, in their written comments submitted to Board staff, stated that the CoSWMP Revision should have included a discussion of the Calderon Act of 1984 and its amendments, which required the Solid Waste Assessment Tests at active and inactive landfills. Specifically, the CoSWMP Revision should have discussed the activities required by this Act and the significant fiscal impacts of the testing program on landfill operators.

The County had not included the specific information on the Solid Waste Assessment Test (SWAT) because this information had not been identified as a required revision item in the Plan Review Report as it was accepted by the Board. The State Water Resources Control Board comments came after the CoSWMP Revision had already been locally approved. In the future, Board staff will identify the issue of the SWAT tests as an area of revision to be addressed at the time the Board reviews County Plan Review Reports.

Storage, Collection and Transportation

(Chapter II)

In this section of the CoSWMP Revision, existing storage, collection and transfer programs are identified and evaluated. Recommended programs include review and update of storage and collection ordinances, planning for adequate storage containers; the designation by the City and County of San Diego of disposal sites in waste collection permits, the monitoring waste volumes received at transfer stations in the Interior Region, and the maintenance of adequate solid waste contingency plans.

Waste Generation (Chapter III)

This section of the CoSWMP Revision looks at historic waste generation trends and projects future waste quantities. Per capita waste generation rates are projected through the year 2000. General composition data on wastes received at county landfills is also included in this section. The inclusion of the waste composition data is an improvement over the previous CoSWMP, where none was provided, and should furnish a good basis for comparing future changes in the waste stream.

Waste Disposal (Chapter III)

This section discusses a number of different scenarios for waste disposal in the County; the "worst" scenario with no replacement sites places the County out of capacity by 1998. The "best" scenario which envision a 10% recycling rate, and the establishment of four waste-to-energy plants and a number of landfill replacement sites will give the County capacity until 2011.

This section identifies a number of proposed projects, which could significantly increase the disposal capacity throughout the County. Included in the projects are new landfills, landfill expansions and volume enhancement at existing landfills.

This section also includes a discussion of procedures for closing the number of inactive sites in the County. The future programs for bringing facilities on the Federal Open Dump Inventory into compliance are also discussed.

Enforcement (Chapter IV)

In the section, the existing Local Enforcement Agency (LEA) Programs as well as programs for litter prevention and cleanup and illegal dumping are discussed. The recommended program for this element includes the periodic review of enforcement programs; the completion of remaining LEA designations and LEA programs for all cities; continued development and coordination of existing litter programs; and pursuing legislation aimed at reducing litter.

Resource Recovery (Chapter V)

This section is divided into two parts, material recovery and energy recovery. Material recovery is further divided into recycling and other material recovery projects.

Under recycling, existing recycling activities in the County are identified. Also, based on county survey results, estimates for existing and future quantities of recyclables are developed. Proposed recycling activities include further implementation of recycling centers and curbside collection of recyclables.

Other material recovery programs identified in this section include chipping and composting of vegetal and wood wastes. The expansion of the existing wood chipping program at the Miramar Landfill and the establishment of future wood chipping programs at Interior Region transfer stations are included in this section. A future composting project at the North County Recycling and Energy Recovery Project is also identified.

This section also discusses the prospects for energy recovery from wastes through incineration and gas recovery from landfills. The SANDER and North County Recycling and Energy Recovery Center Project, which could divert over a 1 million tons of waste annually from landfills, are identified as short term waste-to-energy projects.

The feasibility of the recovery of methane gas from landfills is discussed. The City and County of San Diego's programs for implementing methane extraction at its landfills are identified.

The prospects for use of sewage sludge as a reclaimed material or as any energy source is also discussed in this element. The recommended program includes a possible sewage sludge composting facility in the North County Area and development of alternate methods to land disposal of sludge.

Finance and Administration (Chapter VI)

This section describes the existing roles of the various Federal, State and local agencies that are involved in the management and regulation of nonhazardous waste. This section also discusses the need to initiate a sub-regional mechanism for managing solid wastes.

The existing funding methods and sources are evaluated. From that evaluation, it was found that additional revenue sources will have to be identified to finance a number of new landfills.

Implementation Schedule (Chapter I)

The implementation schedule has been revised to include approximate dates for implementation as required by Government Code Section 66780.1. In addition, items have been updated to reflect new and changed programs identified in this Revision.

Status of Non-Complying Solid Waste Facilities:

In the County, there are three landfills, none of which now receive waste, on the Resource Conservation and Recovery Act's (RCRA) Open Dump List. The details for each site are presented below:

Encinitas

This landfill was placed on the List for violation of the RCRA landfill gas standard on September 9, 1982. The County has installed an air dike system for controlling landfill gas migration. The control system is working satisfactorily.

City of Oceanside

This facility was placed on the List for violation of the RCRA standard for landfill gas on July 21, 1981. A gas control system, which flares landfill gases, has been installed. From time to time, high gas readings at monitoring wells have been recorded.

Maxson Street

This landfill was placed on the List for violation of the RCRA standard for landfill gas on September 16, 1982. The design of a landfill gas control system has been approved. The installation of the system is expected during this fiscal year.

California Environmental Quality Act (CEQA):

The County of San Diego prepared a Negative Declaration for the Plan Revision. In that document, the County stated, based on its review of the potential impacts, that no significant environmental impacts would result from the approval of the CoSWMP Revision and a Negative Declaration was appropriate for the project since:

1. this is a planning document and not a set of proposal,
2. the impacts of unsited and unplanned facilities are too speculative to evaluate,
3. separate environmental documents will be prepared for planned projects.

The Negative Declaration was certified by the Board of Supervisors on October 14, 1986. A Notice of Determination was filed with State Clearinghouse on October 15, 1986 (see Attachment 4). Staff has reviewed the Negative Declaration and has found it is adequate for this Board's use for this project.

Staff Analysis:

The final CoSWMP Revision has been carefully reviewed by Board staff to determine if (1) the CoSWMP Revision reflects the areas of revision identified by the Board and the County at the time the Plan Review Report was accepted, and (2) the CoSWMP Revision complies with State Policy and the Board Guidelines for Preparing, Revising and Amending County Solid Waste Management Plans.

The County for the most part has included in the CoSWMP the areas of Revision identified by the Board and the County at the time the Plan Review Report was accepted by the Board. The one area that was not fully addressed was the economic feasibility of the preferred waste-to-energy program. When staff discussed this deficiency with County staff they indicated that the two proponents of waste-to-energy in the County has cited proprietary reasons as to why they would not provide costs for establishing and operating facilities. Therefore, the County was unable to include this information in the Plan Revision.

Comments were also made by the Water Board about the impacts of the Calderon Act of 1984 and its amendments, as was previously discussed in the background section of this item. While not specifically discussing the impacts of the Calderon Act and its amendments, the County evaluated the operation and closure of existing sites. Part of that evaluation included development of operating and maintenance costs for each phase of operation. After that evaluation, the County concluded that financing these two phases would not be a problem.

Since the County, in the CoSWMP Revision, has already carefully evaluated operating and maintenance costs in compliance with the Board's Planning Guidelines, staff feels that it is inappropriate at this time to require the County revise its CoSWMP to address the Water Board's comments. These comments could have more readily been incorporated at the time of the review of the draft CoSWMP Revision.

Staff concludes, with the exception of the lack of adequate data on the economic feasibility of proposed waste-to-energy program, that the Plan Revision does meet the above requirements.

The SANDER project is currently going through the licensing procedure of the California Energy Commission (CEC) which could be completed by the end of this year. The CEC may request that this Board make a Determination of Conformance for the project. Without the preferred costs for the proposed waste-to-energy program, the SANDER project's Determination of Conformance could be delayed. If the County moves swiftly in correcting the CoSWMP Revision deficiency, any delay in making such a conformance could be minimal.

The Determination of Conformance for the San Marcos waste-to-energy project has already been made by the Board under the prior CoSWMP. This action occurred through Determination of Conformance 86-1 on March 12, 1986.

Options for Board Action:

1. Deny approval the CoSWMP Revision. This option would be appropriate if the County failed to substantially meet the areas of revision that were identified in the Resolution #86-81 in which the Board accepted the San Diego County Plan Review Report.
2. Approve the CoSWMP Revision. This would be appropriate if the County fully complied with the Board Planning Guidelines for Amending, Revising and Preparing County Solid Waste Management Plans and had revised the CoSWMP in in the areas identified in Resolution #86-81.
3. Partially Approve the CoSWMP Revision. This would be appropriate if the County had substantially complied with the Board Planning Guidelines for Preparing, Amending and Revising County Solid Waste Management Plans and had not fully revised the CoSWMP in areas identified in Resolution #86-16.

Under this option, the County would be given 60 days to prepare the economic feasibility information for proposed waste-to-energy program. This should be sufficient time to allow the development of the preferred costs analysis and provide for local approval of the necessary CoSWMP Revision augmentation.

Recommendation:

Staff recommends that the Board select Option 3 and adopt Resolution #87-17, partially approving the San Diego County Solid Waste Management Plan Revision.

Attachment:

1. Resolution of the San Diego County Board of Supervisors, approving the CoSWMP Revision.
2. Tabulation of City Approval for the CoSWMP Revision.
3. Letter of Submittal from Roger F. Walsh, Chief Deputy Director of the County Department of Public Works.
4. Notice of Determination for the CoSWMP Revision.
5. Proposed Board Resolution #87-17 partially approving the San Diego CoSWMP Revision.

NO. 36

TUESDAY, OCTOBER 14, 1986

A RESOLUTION OF THE BOARD OF SUPERVISORS OF THE COUNTY OF SAN DIEGO,
CALIFORNIA, APPROVING THE 1986 REVISION OF THE SAN DIEGO REGIONAL
SOLID WASTE MANAGEMENT PLAN

ON MOTION of Supervisor Bilbray, seconded by Supervisor Williams,
the following resolution is adopted:

WHEREAS, the Nejedly-Z'berg-Dills Solid Waste Management and Resource Recovery Act of 1972, hereinafter referred to as the "Act", requires each county, in cooperation with affected local jurisdictions, to prepare a comprehensive, coordinated solid waste management plan; and

WHEREAS, said Act also requires that such plan shall be consistent with state policy and any appropriate regional or sub-regional solid waste management plan; and

WHEREAS, said Act also requires that revisions to the solid waste management plan shall be subject to the approval by a majority of the cities within the county which contain a majority of the population of the incorporated area of the county; and

WHEREAS, the County of San Diego has prepared the 1986 Revision of the San Diego Regional Solid Waste Management Plan in conformance with the Act and will be submitting this Revision of the plan to the cities in the region for approval;

NOW, THEREFORE, BE IT RESOLVED by the Board of Supervisors of the County of San Diego as follows:

1. That the above recitations are true and correct.
2. That the 1986 Revision of the San Diego Regional Solid Waste Management Plan is hereby approved.
3. That the objectives set forth in the revision; the method and organization for implementation of the programs contained in the revision; the general procedure for financing the recommended programs; and the general role identified in the revision for the County in implementing the Revised Plan in an economical and environmentally acceptable manner are hereby approved.

PASSED AND ADOPTED by the Board of Supervisors of the County of San Diego, State of California, on this 14th day of October, 1986 by the following vote:

AYES: Supervisors Bilbray, Bailey, Golding, Williams and Eckert
NOES: Supervisors None
ABSENT: Supervisors None

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APPROVED AS TO FORM AND LEGALITY
COUNTY COUNSEL

BY William V. Smith
DEPUTY 10-2-86

OCT 14 1986 35-37

1986 CoSWMP Revision Approval Status

<u>JURISDICTION</u>	<u>APPROVED</u>	<u>POPULATION</u>	<u>PERCENTAGE OF INCORPORATED AREA</u>
Carlsbad	No Action	44,567	2.6
Chula Vista	Yes	90,283	5.2
Coronado	Yes	19,751	1.1
Del Mar	No	5,115	0.3
El Cajon	Yes	80,102	4.6
Encinitas	No	45,000	2.6
Escondido	Yes	75,792	4.4
Imperial Beach	Yes	24,567	1.4
La Mesa	Yes	52,156	3.0
Lemon Grove	Yes	21,646	1.2
National City	Yes	51,162	2.9
Oceanside	Yes	91,769	5.3
Poway	Yes	35,966	2.1
San Diego	Yes	971,587	56.0
San Marcos	Yes	19,815	1.1
Santee	Yes	49,524	2.9
Solana Beach	Yes	13,000	0.7
Vista	No	43,431	2.5



COUNTY OF SAN DIEGO

DEPARTMENT OF PUBLIC WORKS

Building 2, 5555 Overland Avenue
San Diego, California 92123-1295
Telephone: (619) 565-5177

Attachment 3

FEB - 6 1987

GRANVILLE M. BOWMAN, Director

January 30, 1987

Mr. George Eowan
Chief Executive Officer
California Waste Management Board
1020 Ninth Street, Suite 300
Sacramento, CA 95814

Dear Mr. Eowan:

SUBJECT: 1986 Revision of San Diego Regional Solid Waste Management Plan

The County of San Diego, Department of Public Works, as the designated lead solid waste management and planning agency for the San Diego County region, hereby transmits a copy of the locally approved 1986 Revision of the San Diego Regional Solid Waste Management Plan (CoSWMP). The Department will separately send nineteen (19) additional copies of the document as requested by Mr. John Smith of your staff.

The 1986 CoSWMP was approved by the County Board of Supervisors on October 14, 1986. A copy of the resolution approving the CoSWMP and the Notice of Determination are included as Attachments Nos. 1 and 2, respectively.

The CoSWMP was approved by a majority of the incorporated cities representing a majority of the population of the incorporated area as required by California Administrative Code Section 17147 (see Attachment #3). City approval resolutions will be forwarded to your Board when they are all received. Three cities (Del Mar, Encinitas and Vista) representing 5.4% of the incorporated area population did not approve the plan. The County will forward comments from these cities regarding their actions when received.

Please contact Ms. Julia Quinn of the Department's Public Service Division, Solid Waste Section, at (619) 565-3532 to advise when this matter will be before your Board and to answer any questions.

Very truly yours,

ROGER F. WALSH
Chief Deputy Director

ROGER F. WALSH, Chief Deputy Director
Department of Public Works

RFW:JQ:scm

Encs.

scm/7-005

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NOTICE OF DETERMINATION

JUN 15 1986

TO: ☒ Office of Planning and Research
1400 Tenth Street, Room 121
Sacramento, CA 95814
or
☒ County Clerk
County of San Diego

FROM: (Public Agency) COUNTY OF SAN DIEGO
Board of Supervisors
1600 Pacific Highway, Room 402
San Diego, CA 92101

SUBJECT: Filing of Notice of Determination in compliance with Section 21108 or 21152 of the Public Resources Code.

Project Title
1986 Revision of San Diego Regional Solid Waste Management Plan
State Clearinghouse Number Contact Person Telephone Number
(If submitted to Clearinghouse)
SCH # 86090309 Jeff Brinton (619) 565-3950
Project Location

County-wide
Project Description
Revision to existing Solid Waste Management Plan setting forth policies and goals

This is to advise that the San Diego County Board of Supervisors
(Lead Agency or Responsible Agency)
has approved the above described project and has made the following determinations regarding the above described project:

1. The project will, ☒ will not, have a significant effect on the environment.
2. An Environmental Impact Report was prepared for this project pursuant to the provisions of CEQA.

☒ A Negative Declaration was prepared for this project pursuant to the provisions of CEQA.

The EIR or Negative Declaration and record of project approval may be examined at:
Dept. of Planning and Land Use, 5201 Ruffin Road., San Diego, CA

3. Mitigation measures were, ☒ were not, made a condition of the approval of the project.
4. A statement of Overriding Considerations was, ☒ was not, adopted for this project.

Date Received for Filing _____

KATHRYN A. NELSON
Clerk of the Board of Supervisors

By Dona E. Trumble
Deputy

DPLU#427
Revised January 1985

NOTE: The Board of Supervisors adopted the EIR for the North County Recycling and Energy Recovery Center Project on June 4, 1985(99).
Planning activities for the SANDER project are exempt pursuant to Public Resource Code 21090 A(6).

114 1986 35237

CALIFORNIA WASTE MANAGEMENT BOARD

Resolution # 87-17

April 21-22, 1987

Resolution of Partial Approval of the San Diego County Solid Waste Management Plan Revision

WHEREAS, the Nejedly-Z'Berg-Dills Solid Waste Management and Resource Recovery Act of 1972 (hereafter referred to as the Act), requires each County, in cooperation with affected local jurisdictions, to prepare a comprehensive, coordinated Solid Waste Management Plan consistent with State Policy and Planning Guidelines; and

WHEREAS, the County of San Diego prepared a revised Solid Waste Management Plan which was approved by the California Waste Management Board on November 18, 1982; and

WHEREAS, the Act requires that approved Solid Waste Management Plans be reviewed and revised, if appropriate, at least every three years; and

WHEREAS, the County of San Diego reviewed its Plan and the California Waste Management Board accepted the County's Plan Review Report, identifying a need for a Plan Revision at its March, 1986, meeting; and

WHEREAS, the County of San Diego has prepared a revised Solid Waste Management Plan and in February, 1987, submitted said Plan Revision to the California Waste Management Board; and

WHEREAS, the proposed Plan Revision has been approved by a majority of the incorporated cities with a majority of the population and the County Board of Supervisors; and

WHEREAS, the proposed Plan Revision was circulated to other state agencies with involvement in solid waste management; and

WHEREAS, the Board finds that the Negative Declaration for the Plan Revision was prepared by San Diego County in compliance with the California Environmental Quality Act (CEQA); and

WHEREAS, the Board finds that the County of San Diego in the Negative Declaration found the project would not have a significant effect on the environment; and

WHEREAS, the San Diego County Board of Supervisors certified the Negative Declaration for the Plan Revision on October 15, 1986; and

WHEREAS, the Board finds that the environmental document is adequate for use in its approval of the proposed Plan Revision; and

WHEREAS, the Board and Board staff have reviewed the Plan Revision and, found the Plan Revision fails to provide information on the economic feasibility of the preferred waste-to-energy program as required by California Administrative Code, Title 14, Section 17137(d), and

WHEREAS, the Board and Board staff have found the remaining portion of the Plan Revision complies with the State Policy and the Board's Planning Guidelines and Procedures for Preparing, Revising and Amending County Solid Waste Management Plan.

NOW, THEREFORE, BE IT RESOLVED that the California Waste Management Board partially approves the San Diego County Solid Waste Management Plan Revision.

BE, IT FURTHER RESOLVED, that the County of San Diego submit required economic feasibility information on preferred waste-to-energy program as required by California Administrative Code, Title 14, Section 17137(d) within 60 days.

CERTIFICATION

The undersigned Chief Executive Officer of the California Waste Management Board does hereby certify that the foregoing is a full, true and correct copy of a Resolution duly and regularly adopted at a meeting of the California Waste Management Board held on April 21-22, 1987.

Dated:

George T. Eowan
Chief Executive Officer

CALIFORNIA WASTE MANAGEMENT BOARD

AGENDA ITEM # 17

APRIL 21-22, 1987

ITEM:

Discussion of concepts for guidelines for the enforcement of the solid waste facility standards.

KEY ISSUES:

- o The authority granted to the enforcement agency for the enforcement of the state minimum standards on solid waste is not summarized in any one location and therefore requires clarification.
- o Enforcement agencies should be provided guidance in determining an appropriate level of enforcement response which is commensurate with the degree of the violation.
- o Guidance on enforcement response should be consistent statewide.

BACKGROUND:

Enforcement of state environmental standards has received increased attention by enforcement agencies as a means to achieving greater compliance at facilities and sites which are regulated by these laws. Many of these agencies employ enforcement remedies authorized by local ordinance in addition to the remedies authorized under state law.

Staff has reviewed the applicable standards for solid waste facilities and has drafted a guidance document which will identify a specific enforcement response for various levels of violation documented at a facility. This document closely follows the authority granted to the California Waste Management Board under the Government Code and the Natural Resources Code. At the same time, this document outlines what an inspection should consist of and what type of evidence is necessary to document a violation before an enforcement response can be prepared.

This document will serve to guide the local enforcement agencies and Board staff on the appropriate, legal enforcement response for a specific conditions observed at a solid waste facility. This document will be utilized by Board staff to train local enforcement agencies in determining type of enforcement response to pursue based upon the severity of the violation and in the preparation of that response.

RELATED ISSUES:

Board staff discussed the concept of uniform guidelines for the enforcement of the State Minimum Standards on solid waste with the members of the Enforcement Advisory Council at the March meeting. Members of the council were very receptive to the development of this project and made this recommendation to the Board at its meeting of March 26 and 27, 1987, in Sacramento.

SCHEDULE:

The proposed schedule for implementation of this document is as follows:

1. Present the document to the Board for comments and approval to distribute to the Enforcement Advisory Council (EAC) and all LEA's for comment. 04/21/87
04/22/87
2. Submit the document to the EAC members and all LEA's for comment. 04/27/87
3. Evaluate the comments and revise the document based upon comments. 05/22/87
4. Present the revised document to the EAC for discussion and approval. 06/18/87
06/19/87
5. Submit the revised document to the Board for approval for implementation. July Board Meeting

RECOMMENDATION:

Staff recommends that the draft document entitled "Guidelines For Enforcement of the State Minimum Standards for Solid Waste Handling And Disposal" be distributed to the members of the Enforcement Advisory Council and all LEA's after incorporating changes made by the Board. EAC members should then review the document and all other LEA's comments for direction to the Enforcement Division staff. Staff should then be directed to bring the guidelines back to the Board for approval consideration at a future date.

Attachment

**GUIDELINES FOR ENFORCEMENT OF THE
STATE MINIMUM STANDARDS FOR SOLID
WASTE HANDLING AND DISPOSAL**

I. PURPOSE

The purpose of this document is to provide Local Enforcement Agencies (LEA) guidance in interpreting and applying the regulations governing the operation of waste management units under the authority of the Government Code, (hereinafter Govt. Code), Section 66701 et. seq., and the Title 14 of the California Administrative Code (hereinafter 14 CAC), Section 17020 et. seq. These regulations are currently enforced through the LEA's which are designated by local government and approved by the California Waste Management Board (Board). This document is intended to enhance a consistent approach towards enforcement statewide. Additionally, this document will guide the Board staff when it must act as the LEA.

II. GENERAL

The various regulations governing solid waste facilities have been grouped into three classifications which differentiate between administrative requirements and operational standards. Within each classification, violations are broken down into three levels which reflect the magnitude of the threat to the public health and the environment or the magnitude of disruption of the waste management operations caused by the violation.

Guidelines for the development of appropriate enforcement response to various violations have been developed to assure consistent enforcement practices.

ENFORCEMENT PROGRAM

III. ENFORCEMENT RESPONSIBILITIES

A. Local

The primary enforcement authority rests with the LEA. The LEA is responsible for pursuing the appropriate response for violation of any state minimum standard, permit condition, or violation of a local ordinance which regulates solid waste facilities in addition to the state regulations.

The LEA has available several options for enforcement of the state or local requirements. These options are presented here in escalating order of severity:

Warning Notice (WN)¹ : At the time of an inspection the LEA may issue a warning notice on the inspection form which identifies the violation(s) and which describes those actions which must be taken to correct the conditions which resulted in the violation(s). This notice must include a deadline for completion of these actions. It is recommended that this form be signed by the landfill owner or operator as evidence of agreement. A copy of the inspection form must be left with the owner or operator.

Notice of Violation (NOV)² : A Notice of Violation is a written notice which contains a summary of violations documented during an inspection. This notice requires a written response from the owner or operator to be submitted within an established time frame. The owner or operator's response should summarize the efforts which have been taken to mitigate the reported violations.

Notice and Order (N&O): The LEA may issue a Notice and Order to require a facility owner or operator to cease and desist from any illegal activity and/or to cleanup and abate any conditions resulting from that activity. (Govt. Code 66796.50 and 14 CAC 18304).

¹ A Warning Notice and Notice of Violation are informal enforcement responses which are utilized when the violation(s) does not warrant formal response authorized under both the Government Code and the California Administrative Code.

² See #1 above

Permit Modification (PM): A Permit Modification should be initiated when the facility has exhibited an inability to comply with specified permit conditions or standards. Permit Modification is useful when a change in operating procedures will correct a chronic pattern of violation. (Govt. Code 66796.56 and 14 CAC 18307).

Civil Penalties (CP): The LEA or the Board may petition the court to assess monetary penalties for various violations. The LEA or the Board should have, at a minimum, exhausted the appropriate remedies listed above, for correction of the violation prior to initiation of this response. (Govt. Code 66796.51 and 14 CAC 18305, 18308).

Injunctive Relief (INJ): Relief sought by the LEA or Board which requests the court to order a facility to provide relief from certain activities resulting in a violation of law. At a minimum, the appropriate administrative remedies listed above should have been attempted, without success, prior to seeking this type of relief. (Govt. Code 66796.691, 66796.692 and 14 CAC 18305).

Listing as a Non-Complying Facility (NCFL): If a facility has chronically operated in violation of the State Minimum Standards, the LEA may request that the Board add a facility to the State List of Non-Complying Facilities. All remedies available to the LEA (except permit revocation) should have been attempted by the LEA, without success, prior to seeking this action. (Govt. Code 66796.38).

Permit Suspension or Revocation (PR): The LEA may initiate action to suspend or rescind the operating permit for a facility. This may be necessary where repeated violations have demonstrated the facility's failure to operate in accordance with the established permit conditions or regulations and where all other enforcement remedies have failed. (Govt. Code 66796.56 and 14 CAC 18307).

The LEA also has available any other sanctions, civil or criminal, which are authorized under local ordinances.

As a final option, the county may refer the case to the Board for appropriate enforcement action when both the LEA and the Enforcement Division agree that state action is necessary to achieve a desired end-result. As an example, referral is appropriate when the landfill owner or operator manages additional solid waste disposal sites located in several counties which have documented violations that would require a consolidated enforcement approach and both the LEA and the Enforcement Division agree on the referral.

B. State

The Board is responsible for the establishment of regulations and performance standards which govern the operation of landfills. The Board approves the designation of the LEA and monitors the LEA to ensure appropriate implementation of the state requirements. The Board may require the LEA, as necessary, to investigate and report on any questions or matters involved in solid waste handling or disposal (Govt. Code, Section 66790(h)).

When a particular site is referred to the Board by the LEA for enforcement under the provisions of Section III.A. of this policy, the Board is responsible for generating the enforcement response in accordance with this policy. The Board's response includes the same options as described under the LEA's enforcement options. When seeking injunctive or monetary relief, however, the Board will refer the case to the State Attorney General's office.

Guideline (III-1)

Inspections conducted by the Board's Enforcement Division, where the Board is not the LEA, may not be acted upon by the Board other than as provided under Section VI (Guideline VI-1) and Section IX.B. of this policy. The Board may refer the results of the inspections to the LEA. When an inspection is referred in this manner, the LEA is expected to take the appropriate enforcement action specified by this policy.

IV. TIME FRAMES FOR ACTION

A. Local

Guideline (IV-1)

Inspection reports should be completed and transmitted to the owner or operator of the landfill and the Enforcement Division within 30 days of the date of the inspection. The filing of any enforcement action by the LEA for violations noted in the inspection report shall commence within 15 days of receipt of the inspection report. Actions which are prepared solely by the LEA without legal representation shall be issued within the 15 day time frame. Actions by the LEA which require the assistance of the legal representation shall be drafted and ready for referral to the appropriate counsel within the 15 day time frame.

In the event that a violation is noted during the course of an inspection which presents an imminent or substantial threat to the surrounding public or the environment, the inspector shall notify enforcement personnel as soon as possible. Enforcement response to abate the alleged unsafe condition shall commence no later than 5 working days from discovery of the condition. While the appropriate administrative remedy may require a more lengthy time frame, initial response to restrain the alleged violation shall commence within 5 working days, if not sooner.

Guideline (IV-2)

The LEA shall establish appropriate time frames with its legal representative for the review of referrals and the filing of any enforcement action by that representative. Details of this arrangement should be described in the Enforcement Program Plan. The county shall work with its legal representative to identify all items to be included in the case file prior to referral.

B. State

Guideline (IV-3)

Case files reviewed by the Board which do not require the assistance of the State Attorney General's office shall be reviewed and an enforcement response shall be prepared and issued within 15 days of receipt of the case file. Case files reviewed by the Board for enforcement which require the assistance of the Attorney General's staff shall be reviewed by the Board's Enforcement Division staff and General Counsel. A draft enforcement response shall be prepared within 15 days. The Board's General Counsel will forward the response to the Attorney General within 15 days of receipt of the draft response.

Guideline (IV-4)

The Enforcement Division, through the Board's General Counsel, shall establish with the Attorney General's office time frames for the review and filing of actions by the Attorney General's staff.

V. COORDINATION WITH STATE AND LOCAL AGENCIES

A. Local

The LEA shall become familiar with the regulations of other state and local agencies within its jurisdiction which have the authority to regulate the design, operation or closure of a solid waste facility. The LEA shall coordinate action relating to waste management with the appropriate local, state, and federal agencies based upon jurisdiction and shall request enforcement response by the appropriate agency when indicated (Govt. Code, Section 66796.10(b) & (c)). The LEA shall consult with the local health agency concerning enforcement actions which involve health standards (Govt. Code, Sections 66796.10(h) and 66796.68).

Guideline (V-1)

If an enforcement response is anticipated by both the LEA and an additional regulatory agency, the action by the LEA shall be coordinated and not duplicative of any other action which may be filed in that county. To determine whether an action is duplicative, the LEA shall review the proposed enforcement response of the local agency and identify the required corrective action. If the level of corrective action will remedy the violations of state minimum standards, permit conditions, or local ordinances observed by the LEA at the site, then any action taken by the LEA should be considered duplicative. If the LEA determines that the action proposed by another agency does not remedy all of the violations at the site, then the LEA shall note this in the case file and pursue an appropriate course of action.

Guideline (V-2)

When a case file is to be referred to the Board for enforcement response based upon the criteria in Section III.A., above, the file shall include a summary of county agencies currently involved in any enforcement aspects at the site.

B. State

Guideline (V-3)

When a case file is received by the Enforcement Division for enforcement based upon the criteria in Section III.A., the Enforcement Division shall review the file for information concerning enforcement response taken by other local agencies. If other agencies are identified with a current enforcement interest in the site, the Enforcement Division shall, through the efforts of the LEA, ensure that any State action taken in regard to that site will not unnecessarily duplicate the local efforts. If the Enforcement Division determines that the local action will not adequately address the problems at the site, the Enforcement

Division shall note this in the case file and pursue an appropriate enforcement response which will sufficiently address the identified deficiencies.

Guideline (V-4)

The Enforcement Division shall become familiar with other state agencies which have authority to regulate the design, operation or closure of a solid waste facility. The Enforcement Division shall consult with these agencies prior to taking action at a particular site to ensure that no unnecessary duplication of effort takes place. If the Enforcement Division determines that the level of action of another state agency is not sufficient to adequately address the deficiencies at the site, the Enforcement Division shall note this in the case file and continue to pursue a proposed action which will sufficiently address these deficiencies.

VI. INSPECTION FREQUENCY

B. Local Requirements

The local enforcement agency is required under Govt. Code, Section 66796.10(e) to develop, implement and maintain an inspection program. 14 CAC, Section 18303, requires that the LEA conduct investigations of all facilities where it has reason to believe that a violation exists and to periodically inspect permitted facilities to ensure compliance with all applicable laws and regulations.

There are no specified inspection frequencies mandated in the law, however, in order to retain the designation as the LEA, the program must establish a method by which it will identify facilities violating State minimum standards (Govt. Code, Section 66796.10(a)). The LEA shall establish an enforcement program which shall include the regulations necessary to implement a program (Govt. Code, Section 66796.10(f)) which shall include a description of the inspection program (Govt. Code, Section 66796.35).

Facilities which negotiate with the LEA to implement performance standards in lieu of State minimum standards shall be inspected at least weekly by the LEA (14 CAC, Section 18313).

Guideline (VI-1)

The LEA inspection program should evaluate 100% of the permitted solid waste facilities a minimum of four times per year. These inspections shall occur between the months of June-August, September-November, December-February, and March-May. There shall be a minimum of 30 days and a maximum of 90 days between inspections (unless otherwise mandated by local ordinance). Based upon geographical location, population density, and compliance history, the inspection frequency may be modified, but in no instance should it be reduced from a minimum of quarterly inspections.

These inspections shall represent the core of the inspection program. Additional inspections required either for performance standard verification or follow-up to determine if corrective action has been completed shall be in addition to the inspection frequency specified in this policy.

Guideline (VI-2)

Follow-up inspections to determine if a facility has corrected past violations shall occur as soon as possible after the established deadline for correction has elapsed.

B. State Requirements

Govt. Code, Section 66796.38 requires the Board to inspect 50% of the permitted solid waste facilities which receive greater than 100 tons of solid waste per day and at least 25% of the other permitted solid waste facilities every 2 years. The Board is required to maintain an inventory of solid waste facilities which violate state minimum standards.

Guideline (VI-3)

Violations of the State minimum standards are maintained and reviewed during the course of the inspection program conducted by the Board's Enforcement Division staff. If a facility reaches its third Board inspection with continuing violations or additional violations of the State minimum standards, the facility may receive a notice stating that if the violation(s) are not corrected within 90 days of receipt of the notice that the facility will be placed on the State List of Non-Complying Facilities (Inventory).

Guideline (VI-4)

The Board inspection program is distinct from the activities of the LEA and is not intended to replace these activities. Any enforcement action (other than listing on the State List of Non-Complying Facilities) based upon the observations in these inspections should be taken by the LEA.

VII. CONTENTS OF INSPECTION

State and Local

Inspections performed under the authority of Govt. Code, Sections 66796.10, 66796.35, and 66796.38 shall include, at a minimum, a review of all standards published under 14 CAC, Division 7, Chapters 3 and 4. The inspection shall also include a review of the facility's permit conditions. Non-compliances with any applicable permit conditions shall be noted in the inspection report. In any event, the inspection report shall indicate that a review of the permit was completed prior to the site visit. Where the LEA conducts inspections/investigations, the review shall include any local regulatory requirements that the local authorities have established in addition to those of the State.

The inspections shall utilize the form provided by the Board (14 CAC, Section 18303(b)). Inspections conducted by the LEA shall be completed and forwarded to the Enforcement Division within the time-frames specified under Section IV, above.

Guideline (VII-1)

All violations shall be documented. Where possible, photographs of the deficiencies shall be included in the inspection report (i.e. no signs, salvaged material stored near landfill, animals feeding on refuse, burning of refuse, liquid in contact with solid waste). Where appropriate, obtain actual quantity estimates from the landfill operator (i.e. adequate supply of cover material, working face slope ratio). If the estimates do not appear to be accurate, this should be noted in the inspection report. If estimates are included by the inspector, the method used to estimate the quantity involved shall be included in the inspection report. A record review shall include copies of records where deficiencies are noted.

If written documentation is to be the only evidence of the violation, the inspector should describe the activity causing the condition of violation, including maps or diagrams, where appropriate. This description shall include how the violation was discovered, what the inspector observed and why the observation should be considered a violation.

Where a judgement regarding adequacy of efforts to monitor, prevent, or control the effects of an operation is made, a complete discussion of the rational facts concluding inadequacy of those features should be included.

Guideline (VII-2)

Where there are statutes or duly adopted regulations of another agency in effect, those statutes or regulations shall provide minimum criteria for a determination of adequacy by the LEA. Additional criteria may be used where appropriate. A partial listing include those regulations established by the State Water Resources Control Board, the Department of Health Services, the Department of Forestry, the California Occupational, Safety and Health Administration, the Local Air Pollution Control Districts, and the State Fire Marshal's office. In addition, sites may also be governed by the US Army Corp of Engineers, the Coastal Commission, and the EPA.

Guideline (VII-3)

The inspection report shall contain documentation of all deficiencies noted during the inspection. Escalation of enforcement action based upon a second offense violation shall only take place when the initial violation was documented.

VIII. REPORTING REQUIREMENTS

Govt. Code, Section 66796.10(g) requires the LEA to keep and maintain records of its inspections, enforcement, training, regulatory programs, and any other official actions. At the request of the Board, the LEA shall file with the Board, information that the Board deems necessary (Govt. Code, Section 66796.10(d)).

Govt. Code, Section 66796.21(b) requires the Board to periodically review the LEA and its implementation of the enforcement program.

Guideline (VIII-1)

The LEA shall submit copies of its inspection forms to the Enforcement Division within 30 days of the date of the inspections. Inspection reports shall be submitted on the form provided by the Board.

The LEA shall also submit a summary of enforcement actions, to the Enforcement Division, on a quarterly basis, on the form provided in Appendix II of this document. This enforcement summary shall be submitted by July 15, September 15, December 15, and March 15, covering the previous quarter's activities. Warnings, Notices of Violation, Cease and Desist and Cleanup orders, and civil and criminal actions shall be included in this summary. The date that the action was taken or filed shall determine which quarterly summary it is to be included in. For all court actions, the date that the case is settled shall be included as well.

The enforcement summary data will be tabulated by the Enforcement Division and used by the Enforcement Division in its review of the LEA (refer to Section XI of this policy). A copy of the enforcement summary will be sent to the LEA's within 45 days of the end of each quarter.

Guideline (VIII-2)

The LEA shall keep records of all permit reviews conducted pursuant to Govt. Code, Section 66796.33(d). The records shall include a summary of what was reviewed (i.e. enforcement history, county plan, amendments to the regulations), findings of the review, and what permit action was taken, where applicable. This information need not be included in the quarterly enforcement summary.

IX. MINIMUM EXPECTED ENFORCEMENT RESPONSE

A. Local Authority

Govt. Code, Section 66796.50 through Section 66796.52 provides the LEA with the authority to pursue legal measures to mitigate any violation of minimum standards or permit conditions. This authority includes the ability to require a facility to cease and desist any unlawful operations, to cleanup any solid waste not disposed of in accordance with all applicable regulations, and to pursue civil action to recover fines associated with a particular violation. (civil penalties cannot exceed a maximum of \$1000 per day per violation, Govt. Code, Section 66796.51.).

In addition, the LEA has available the ability to modify, suspend or revoke a permit, if a facility has violated any of the conditions of the permit or has provided misleading information which led to the development of the permit conditions and the granting of a permit to operate (Govt. Code, Section 66796.56 and 14 CAC, Section 18307).

This document establishes the Enforcement Division's expectations of what the minimum level of enforcement response for each type of violation should be.

Guideline (IX-1)

An LEA may request the Board to place a facility on the State List of Non-Complying Facilities as an enforcement response, (see Section III, above). Such action may be in addition to any administrative, injunctive or monetary relief measures.

B. State Authority

The Government Code provides the authority for the Board to seek injunctive relief against a facility when the LEA has failed to do so (Govt. Code, Sections 66796.51(b) and 66796.692 and 14 CAC, Section 18308). This relief may include civil action to recover penalty costs. The maximum civil penalty allowed is \$1000 per day per violation. The Board may not seek administrative action if the violation does not cause or threaten to cause a condition of hazard, pollution, or nuisance which constitutes an emergency requiring immediate action.

When a violation constitutes an emergency and requires immediate action, the Board may take such administrative action if the LEA fails to issue such action (Govt. Code, Section 66796.52 and 14 CAC, Section 18308). Under these conditions, the Board may issue a cease and desist order or a cleanup order to abate a situation when the LEA fails to do so.

Guideline (IX-2)

It is the policy of the Board to refrain from exercising its independent jurisdiction to take enforcement actions unless necessary due to local agency inaction or unless formally referred by the local agency.

Guideline (IX-3)

Standards regulating the operation of solid waste landfills have been grouped into three classifications to reflect the various segments of a landfill's operations:

Group I - these are standards which are either purely administrative or which deal with potential health, safety, or environmental impacts indirectly associated with facility operations. Examples include:

Records	Communication	Safety
Personnel	Sanitation	Security
Signs	Traffic	

Group II - these standards which deal with short-term potential health, safety, and environmental effects which are the direct consequence of waste management operations at the facility but which are no longer of concern when the facility stops receiving wastes. Examples include:

Unloading	Vector Control	Salvaging/Processing
Spreading/Compacting	Litter	Equipment
Slopes/Cuts	Dust	Maintenance
Cover	Noise	Nuisance
Lighting	Roads	

Group III - these standards deal with long-term potential health, safety, and environmental effects which are a direct result of landfill operations. Examples include:

Fire	Closure	Drainage/Erosion
Leachate	Special Wastes	Odor
Gas	Grading	Final Slope
Final Cover	Completed Site Maintenance	

For each of the above classifications, the extent of a given violation may be serious, major, or minor in nature:

Serious violations include those where there has been a documented violation which has resulted in an impact to the public health or the environment. Serious Group I violations include those which have had a documented effect on the day-to-day operations of the landfill.

A major violation has the potential to effect the public health or the environment, but correction of this violation will prevent the potential impact. Major administrative violations have the potential to adversely affect the day-to-day operations of the landfill.

A minor violation is one which will not directly impact the day-to-day operations of the landfill or which will not directly increase the probability that the potential health, safety, or environmental effect will occur.

Table I, on page 18, provides guidance for determining the extent of a violation. This table is indexed by the group classification described above. Use Table I to determine the extent of each violation (minor, major, or serious).

Table II on page 21, shall then be utilized to determine the minimum level of action to be taken for the first, second and third offense. The matrix in Table III on page 23, will provide an appropriate penalty value.

Guideline (IX-4)

Because of the frequency at which facilities are inspected by the LEA, it is possible that problems, subject to repeated cycles of violation/correction, may not be recognized as chronic by the LEA. To avoid this, third offense violations need not be calculated over three consecutive inspection periods. Rather, for a monthly inspection frequency, if three violations are found in a ten month period, it shall be considered a third offense. For an inspection frequency of quarterly, three violations found over a two year period shall be considered a third offense.

Guideline (IX-5)

The enforcement response for violation of a permit condition shall be determined based upon the group's analogous classification (whether it corresponds to a Group I, II, or III classification) and the extent of the violation (minor, major, or serious). All case files shall contain a short summary on the development of the enforcement response.

Guideline (IX-6)

When a decision to deviate from this document is made, the case file shall include a written justification describing why the document is not applicable in a particular circumstance.

GROUP I VIOLATIONS

Minor

Records available but not complete.
Overflow landfill traffic not controlled but does not affect public use of access roads.
Signs not reasonably clear or at public access points.
Sanitary facilities provided for but not in the immediate vicinity of the site.
Security provided but not maintained.
Communication provided but not readily available.
Safety equipment available but not readily accessible.

Major

Records do not exist.
Warning signs (i.e. unattended site) not present or inaccurate.
No evidence of training of personnel.
Sanitary facilities not provided.
Traffic not controlled: public use of access roads prohibited.
Communication facilities not available.
Safety equipment not available.
Security available but does not prevent vehicular access.

Serious

Records do not exist and daily operations affected.
Records altered.
Personnel not always available at site during use hours.
Site not supervised causing violation of standards and operations.
No security where required.

GROUP II VIOLATIONS

Minor

Unloading not confined; no hazard to operations.
 Slope ratio on working face or fill does not meet horizontal to vertical ratios.
 No proof of adequate supply of cover material.
 Salvage and volume reduction not confined to limit interference with other operations; no hazard.
 Vector control systems available but does not minimize population: no hazard.
 Control system for litter available but does not prevent the accumulation of material; no on-site hazard.
 Operations designed to control noise but periodically exceeds limits.
 No proof of availability of stand-by equipment.

Major

Unloading not confined; hazard to operations.
 Slope ratio on working face or fill does not meet horizontal to vertical ratios; hazard to operations.
 Material at depth of greater than 2 ft prior to compaction.
 Stockpile of cover material in contact with solid waste.
 Intermediate cover not of required thickness or placed within required time frame.
 Salvage and volume reduction not confined to limit interference with operations; hazard to operations.
 Vector control not adequate; hazard to operations.
 Litter not controlled; hazard to operations.
 No method for noise control; hazard to operations.
 Deficiencies at site not repaired in a timely manner; hazard to operations.

Serious

Final face slope ratio is greater than the horizontal to vertical ratio of $1\frac{3}{4}:1$.
 Final face slope does not contain additional design features required by the LEA.
 Scavenging of material allowed.
 Unapproved volume reduction.
 Salvaging of non-salvageable items.
 Litter allowed to migrate off-site when used to meet performance standards.
 Litter not collected, migrating off-site.
 Excessive noise creating hazard to operations and surrounding public.
 Equipment does not meet needs of operation.
 Deficiencies at site not repaired; off-site hazard.

GROUP III VIOLATIONS

Minor

Gas monitoring frequency interrupted for less than 2 periods.
Closure documents not recorded.
Alternate leachate control method utilized but not approved by the LEA.
Erosion repaired but not designed to prevent further occurrence.

Major

No notification of fire not extinguished within 24 hours.
Leachate control system does not contain and appropriately dispose of material; on-site hazard.
No adherence to gas monitoring frequencies.
Method of analysis does not meet criteria.
Gas monitoring system not developed to established standards.
Grading of fill surfaces does not prevent lateral runoff and ponding at site.

Serious

Refuse fed to animals for human consumption.
Active face exceeds allowable area for wet or dry season when site utilizing performance standards.
Fire control not initiated or in accordance with local requirements.
Gas monitoring reveals levels in excess of allowable limits.
Unapproved burning of wastes.
Hazardous wastes at site not approved for storage, transfer or disposal.
Liquid wastes at a site not approved for acceptance.
Dead animals disposed of at site
No leachate collection system, accumulation of liquids.
Placement of drainage water in sanitary sewer; not approved.

Table II

MINIMUM EXPECTATIONS OF ENFORCEMENT RESPONSE³

GROUP I

<u>Extent</u>	<u>First Offense</u>	<u>Second Offense</u>	<u>Third Offense</u>
Minor	WN	NOV	PM
Major	WN	NOV	N&O/PM
Serious	NOV	NOV	PM/CP

GROUP II

<u>Extent</u>	<u>First Offense</u>	<u>Second Offense</u>	<u>Third Offense</u>
Minor	WN	NOV	N&O/PM
Major	NOV	N&O	PM/INJ
Serious	NOV	N&O	INJ/NCFL

GROUP III

<u>Extent</u>	<u>First Offense</u>	<u>Second Offense</u>	<u>Third Offense</u>
Minor	WN	NOV	N&O/PM
Major	NOV	N&O	INJ/PM
Serious	N&O	INJ	CP/NCFL

³ WN- Warning Notice NOV-Notice of Violation
 N&O-Notice and Order PM- Permit Modification
 CP- Civil Penalties INJ-Injunctive Relief
 NCFL-Non-Compliance PR- Permit Suspension or Revocation
 Facility List

ENFORCEMENT PENALTY MATRIX

	minor	major	serious
group I	\$150	\$300	\$500
group II	\$250	\$500	\$750
group III	\$500	\$750	\$1000

X. REVIEW OF FACILITIES BY THE LEA

The LEA shall review, and, if necessary, revise or modify every solid waste facilities permit at least every five years (Govt. Code, Section 66796.33(d)).

Guideline (X-1)

The permit review conducted by the LEA shall utilize the enforcement history summary at each site. The LEA shall determine whether the facility has repeatedly violated any minimum standard or permit condition which may require a modification or revision to the facility's permit. Violations which have been the subject of previous enforcement action and which have not been corrected shall be addressed during the permit review.

When reviewing the permit of a site which has been placed on the Inventory specified in Section VI.B. of this document, the LEA shall request and utilize any information generated by the Enforcement Division which the LEA deems applicable.

XI. REVIEW OF ENFORCEMENT AGENCY

Govt. Code, Section 66796.21(b) requires the Board to periodically review the enforcement agency and its implementation of the enforcement program. If the Board determines that the LEA is not performing its duties as specified, the LEA shall be notified in writing of the documented deficiencies and proposed withdrawal of approval by the Board. If the LEA does not take the corrective action specified in the notice within 30 days (or more if so allowed by the Board), then the Board shall withdraw its approval of the designation and assume the duties of the enforcement agency.

If the Board becomes the enforcement agency, it may charge reasonable fees to the local governing body to recover operation costs (Govt. Code, Section 66796.15).

Guideline (XI-1)

The Board may withdraw its approval of the designation of the LEA when the LEA does not take adequate enforcement action to correct violations at a given facility; does not document observed violations at a given facility; does not maintain an adequate inspection program; does not develop corrective action plans with facilities placed on the Inventory; does not follow up on compliance with the plans; or, does not take the appropriate enforcement response when a facility does not adhere to a compliance schedule.

If the Board concludes to withdraw its approval of designation from the LEA, the Board shall provide no less than 30 days notice of dedesignation. This notice shall also contain a description of the actions that the LEA must perform in order to retain its designation. If the LEA can provide proof that the required corrective action has been taken, the Board shall withdraw its proposal for dedesignation. Prior to the withdrawal of the proposed dedesignation, the Board may establish any such recordkeeping or reporting provisions which will ensure the continued adherence by the LEA to this enforcement policy.

Guideline (XI-2)

Inspections conducted by the Enforcement Division under the authority of Govt. Code, Section 66796.38(b) may be used as an evaluation mechanism. If a given facility is inspected over three consecutive occasions with continuous violations noted, the Enforcement Division may review the LEA's performance (past inspection history, violation history of facility(s), enforcement response) and where sufficient deficiencies are noted, make a preliminary determination regarding the LEA's continuing designation approval.

VIOLATION GROUPINGS

<u>Group</u>	<u>Cite</u>	<u>Description</u>
I	17636	weight/volume records
I	17637	subsurface records
I	17638	special occurrences log
I	17639	inspection of records
I	17646	availability of qualified personnel
I	17647	training
I	17648	adequate supervision
I	17649	site attendant
I	17656	identification signs
I	17657	entry signs
I	17658	site security
I	17666	sanitary facilities at site
I	17667	safe drinking water at site
I	17668	communication facilities
I	17670 H	personnel health and safety
I	17714	traffic control

VIOLATION GROUPINGS

<u>Group</u>	<u>Cite</u>	<u>Description</u>
II	17659	access roads
II	17660	internal roads
II	17669	lighting
II	17676	confined unloading
II	17677 H	spreading and compacting
II	17678	slopes and cuts
II	17680	stockpiling
II	17681	availability of cover material
II	17682	cover
II	17683 P	performance standards
II	17683 P	litter - performance standard
II	17683 P	odor - performance standard
II	17684	intermediate cover
II	17686 H	scavenging prohibited
II	17687	salvaging permitted
II	17688	volume reduction and energy recovery
II	17689	processing area
II	17690	confined area for salvage storage
II	17691 H	storage of salvage
II	17692 H	non-salvageable items
II	17701	nuisance control
II	17702 H	animal feeding
II	17706	dust control

VIOLATION GROUPINGS

<u>Group</u>	<u>Cite</u>	<u>Description</u>
II	17707 H	vectors and bird control
II	17708	drainage and erosion control
II	17710	grading of fill surfaces
II	17711	litter control
II	17712 H	noise control
II	17713 H	odor control
II	17715	ponded liquid
II	17726	site equipment
II	17727	standby equipment
II	17731	maintenance procedures
II	17732	operating site maintenance

VIOLATION GROUPINGS

<u>Group</u>	<u>Cite</u>	<u>Description</u>
III	17679	final site face
III	17683 P	fire - performance standard
III	17683 P	moisture infiltration - performance standard
III	17685	final cover
III	17703	fire control
III	17705	gas control
III	17734	completed site maintenance
III	17735	recording
III	17741	burning Wastes
III	17742 H	hazardous wastes
III	17743 H	liquid wastes
III	17744 H	dead animals

CALIFORNIA WASTE MANAGEMENT BOARD

Agenda Item #18

April 21-22, 1987

ITEM:

Update on Coordinated Statewide Litter Control Program.

KEY ISSUES:

- o California has a rapidly increasing litter problem. Litter along California's highways has increased 24% since 1974.
- o Numerous State agencies devote money, staff, and other in-kind services to combat the problem. Little or no coordination exists.
- o Sixteen State agencies are working with Board staff to eliminate duplication of efforts and to deal more effectively with litter abatement, enforcement, public awareness, and education.

BACKGROUND:

Board Chairman Sherman E. Roodzant and Chief Executive Officer George T. Eowan met with representatives of the California Highway Patrol and the Department of Transportation (Caltrans) on December 18, 1986. The purpose of the meeting was two-fold: (1) to discuss mutual concerns about the litter problem on and along California highways; and (2) to explore cooperative approaches to deal more effectively with the problem.

It was agreed that these agencies would make a concerted effort to develop a comprehensive plan and that other agencies might be invited to join in. A list of participating agencies identified by CWMB staff is included as Attachment A.

An initial letter of invitation was mailed to directors of 12 State agencies requesting them to send representatives to a departments sent representatives, and these representatives suggested other departments which were subsequently included in a

second meeting held March 11th, 1987. In preparation for the March 11th meeting, each participating member was asked to outline in writing the current and possible future litter program activities that their respective departments might undertake. The information was compiled into a draft functional matrix.

Eleven activity categories were developed to chart current activities being performed by one or more departments and to highlight possible additional activities:

- | | | |
|---------------|--------------------------|----------------|
| o Clean-Up | o Public Awareness | o Education |
| o Training | o Beautification | o Enforcement |
| o Legislation | o Litter Funds Available | o Coordination |
| o Receptacles | o Recycling/Reuse | |

Current activities in the category of Public Awareness include Public Service Announcements (PSA's) by many of the participating departments. Future activities might involve those departments including a litter message within their existing planned PSA's or agreeing to participate in a coordinated Litter PSA Campaign. It became readily apparent that there are many areas for cooperation that could result in a more effective overall litter abatement and public education for California.

STAFF ANALYSIS:

Major objectives of the CWMB staff in pursuing a coordinated litter control effort focus on (1) improved efficiency and effectiveness of current efforts; and (2) the development of new initiatives.

Improvement of current efforts is achievable by identifying and eliminating duplications among agencies, creating a broader perspective regarding statewide needs and possible approaches, jointly defining priorities, and establishing a phased, incremental approach. Once these steps are undertaken, new initiatives can be developed through redirection of resources and savings realized. Where additional needs exist, program and contract proposals for the current and upcoming fiscal years could be initiated. If further resources are required to enhance litter control activities, BCP's for FY 1988-89 could be developed (see Attachment B).

A high degree of interest has been expressed for the development of litter bags to be used by several of the participating departments. A variety of possible uses and distribution points have been discussed. Two departments have suggested several points for the effective distribution of vehicle litter bags. The Department of Food and Agriculture could distribute them to tourists entering California through any of the sixteen border stations. Department of Motor Vehicles has also suggested distributing them in various ways. Two possibilities are

providing litter bags at DMV offices to (1) persons receiving first-time drivers licenses and those renewing licenses; and (2) persons registering vehicles (including boats). The suggested distribution points will focus on some major contributors to the litter problem previously identified in the 1985 CWMB California Litter Survey). In addition, the Prison Industry Authority, California Youth Authority, and the Department of Corrections are all interested in manufacturing these bags and other items identified by the group, providing they have the equipment to manufacture the needed items. Many possibilities exist for these three agencies to develop needed items utilizing inmates. A secondary benefit would be providing skill development and work experience to inmates, as well as increasing their awareness of the negative aspects of litter.

Caltrans spent \$20 million dollars picking up and disposing of litter along highways in FY 85/86. To quote J. R. Cropper, Chief of Highway Maintenance:

"Highways aren't full of litter because Caltrans isn't picking it up; they are full of litter because it is being deposited faster than it can be handled by the available resources....However, public interest groups and government are beginning to attack the problem at the source. More and more campaigns are being initiated to inform the public of the tremendous cost of littering, and to try and make littering socially unacceptable. While we will continue to do our best to keep the highways litter free, we believe the best chance of reversing the trend may lie with educational campaigns."

Caltrans and several other departments could realize substantial benefits from cooperative, coordinated public awareness and educational programs.

These ideas, along with many others, were discussed on March 11th. Three subgroups were established and each assigned to one of the the Board's Litter Coordinators. Board staff will work with their assigned groups to develop a detailed list of activities to be undertaken with a proposed timeline for key actions. Staff expects to complete a comprehensive report by June 30, 1987, summarizing current State agency litter efforts with recommendations for future coordinated activities.

RECOMMENDATION:

Information Item.

CALIFORNIA WASTE MANAGEMENT BOARD

AGENDA ITEM #19

April 21 - 22, 1987

Item:

Report on the Sixth Annual Waste-to-Energy Conference sponsored by the United States Conference of Mayors and National Resource Recovery Association.

Key Issues:

- 1) NRRA requested a speaker from CWMB to discuss environmental regulatory trends in California at the sixth annual Resource Recovery Conference
- 2) Martha Gildart, Advanced Technologies Division, represented the Board

Background:

The National Resource Recovery Association and the U.S. Conference of Mayors sponsored the 6th annual Resource Recovery Conference on March 26 & 27 in Washington D.C. One of the principal topics of the conference was environmental regulations for resource recovery projects. The CWMB was invited to share its experience and insight into the changing environmental regulatory program in California. The California Legislature has taken a leading role in developing regulations for resource recovery; the state is the first to mandate that health risk assessments be performed for all facilities. California air pollution emission limits are among the most stringent in the world and testing of ash for hazardousness must be performed on a regular basis before disposal.

Representatives from other states discussed their experience in research, development and regulation of resource recovery projects. The Conference provided a forum for the exchange of valuable information on many aspects of resource recovery.

Topics

Trends in Environmental Regulation
Ash Residue Management
Air Emissions
Health Risk Assessments
The New Tax Law
Project Financing

Keynote Speakers

Congressman James J. Florio, U.S. House of Representatives

Assemblyman Maurice D. Hinchey, Chair, New York State
Legislative Commission on Solid Waste Management

Martha Gildart of the Advanced Technology Division gave the presentation on behalf of the CWMB, and will be presenting this item to the Board.

Recommendation:

Information only.

CALIFORNIA WASTE MANAGEMENT BOARD

Agenda Item # ~~8~~ 5

April 21 - 22, 1987

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Item:

Consideration of Invitation for Bids (IFB) for Consultant Services to Conduct a Recycling Study.

Key Issues:

- o Study will assess potential for recovering aluminum, glass, PET, HDPE, ferrous metals, AB 2020 beverage containers, and paper from the residential and commercial solid waste stream.
- o IFB calls for contract not to exceed \$45,000 for a term of six months.
- o IFB will be awarded to the lowest qualified bidder.

Background

Sections 6678B - 66789.4
Title 7.3 of the Government Code charges the Board to provide technical assistance to achieve the Code's goals and fulfill its responsibilities. One means by which the Board fulfills this requirement is to provide information on the level of recycling obtained and obtainable in California. However, much of the data on recycling levels is over six years old and therefore not very useful for current decision-making.

Discussion

Attached is an IFB is for the preparation of a report on recycling levels throughout California. The materials to be investigated in the study are--

- | | |
|-------------------------------|---------------------------|
| o Glass | o White ledger paper |
| o Aluminum | o Colored ledger paper |
| o Ferrous metal cans | o Mixed waste paper |
| o PET containers | o Computer printout paper |
| o HDPE containers | o Newspaper |
| o Scrap metal | o Magazines |
| o AB 2020 beverage containers | o Corrugated paper |
| | o Chipboard |

The study requires the following tasks be done:

- o Estimation of the availability of recoverable materials in the 12 major waste generating counties in California. These counties are--
 - Los Angeles
 - Orange
 - San Diego
 - Riverside
 - San Bernardino
 - Kern
 - Alameda
 - Contra Costa
 - Santa Clara
 - San Mateo
 - San Francisco
 - Sacramento
- o An accounting of the amount of waste currently diverted through materials recovery in each of the selected counties.
- o Identification of potentially recoverable materials, such as plastics, which are currently under-recovered in California and determination of the conditions which would need to prevail to increase their recovery.
- o Identification of the available secondary materials markets, their capacities, and potential for expansion.
- o A literature search of existing studies which provide data on recyclable materials in the solid waste stream in California and on the amounts already being recovered.

The contract developed as a result of the IFB will be for a term of six months with a maximum funding of \$45,000.

This IFB contains a "low bid" selection process, and any contract award made hereunder will be based on the lowest bid, after a threshold evaluation and selection process, by which qualified bidders will be selected. Only those bidders obtaining a score of at least 75 out of 100 points will be considered qualified bidders. The minimum bid requirements and these evaluation criteria are presented in Attachment A of the IFB; the Score Sheet derived from these criteria is presented in Attachment B of the IFB.

Progress payments will be made on a monthly basis, in arrears, based on a monthly invoice and written progress report. Ten (10) percent of each payment will be withheld, to be paid on the satisfactory completion of the contract.

It is anticipated that a contract will be awarded in June, 1987, and shall be completed by January, 1988.

Recommendation:

The Board approve the issuance of an IFB for the conduct of a study of recycling in the 12 major waste generating counties of California.

Attachments.

1. Invitation for Bids

X

April 23, 1987

To All Prospective Contractors:

SUBJECT: Invitation for Bids (IFB) for Recycling Study

Attached is a copy of the IFB for a recycling study for the California Waste Management Board.

The deadline for submittal of bids is 4:00 p.m. May 25, 1987. All bid packages and bid proposals must be received, NOT POSTMARKED, at our office at 1020 Ninth Street, Suite 300, Sacramento, CA 95814, by this date and time. Any bid package and bid proposal received after the deadline will not be considered and will be returned unopened to the proposer.

The attached "Bidder's Minimum Qualifications Checklist" has been provided for your convenience. It should not be taken as changing any requirement shown in the IFB.

If you have any questions about this IFB, please contact Robert F. Conheim, General Counsel, at (916) 322-3330.

Sincerely,

George T. Eowan
Chief Executive Officer

Attachment: Bidder's Minimum Qualifications Checklist

Bidder's Minimum Qualifications Checklist

- () CWMB receives bid by 4:00 p.m. on May 25, 1987

Bid includes:

- () 15 copies of Bid Package
- () 1 unbound master copy of Bid Package marked "MASTER"
- () 1 copy of Bid Price and Cost Proposal in sealed envelope, clearly marked "Bid Price and Cost Proposal", and separate from the bid package used to qualify the bidder. (Provide information shown on Attachment C.)

Bid package contains:

- () Signed cover letter with:
 - () Signer's title
 - () Statement of 90 day offer
 - () Negotiator's name, title, address, phone number
 - () If applying for Small Business Preference:
 - () Cover letter statement claiming the preference be given
 - () Small Business Preference Certification Number
- () Bid package describes methodology to be used
- () Bid package includes work schedule
- () Any conflict of interest is disclosed
- () Bidder shows 3 years' experience in field related to project
- () Sample of report in field related to project
- () 3 references from clients attesting to bidder's qualifications

INVITATION FOR BIDS

STUDY OF RECYCLING

IN CALIFORNIA'S MAJOR WASTE GENERATING COUNTIES

I. Introduction

The California Waste Management Board is the lead State agency responsible for nonhazardous waste management in California. Title 7.3 of the Government Code requires the Board to provide technical assistance to achieve the Code's goals and fulfill the Board's responsibilities. One means by which the Board fulfills this requirement is to provide information on recycling to the Legislature, local governments, and the public. Unfortunately, much of the available information on the level of recycling obtained and obtainable in California is over six years old and therefore not very useful.

Current information on recycling levels and potential would help the Board's staff respond to requests for legislative and recycling program analyses. For example, such information would allow Board staff to evaluate the effect of the beverage container redemption program (Assembly Bill 2020, 1986) on the amount of solid waste going to landfills. If Senate Bill 188 (Alquist), a recycling tax credit bill is enacted, the Board will need baseline recycling information to assist the Legislative Analyst report to the Legislature on the effects of the tax credit. Up-to-date recycling information would also help the Board staff work with local governments and the private sector in planning solid waste management. In particular, such data would enhance the usefulness of existing Board programs, such as the Solid Waste Financial Model computer program.

II. Purpose and General Requirements

The purpose of this Invitation for Bids (IFB) is, through a competitive selection process, to obtain the services of a contractor to assess the potential for recovering selected "recyclables," including AB 2020 beverage containers, from the residential and commercial solid waste stream in twelve (12) counties. The twelve counties are the major waste generating counties in California. The twelve counties are--

- o Los Angeles
- o Orange
- o San Diego
- o Riverside
- o San Bernardino
- o Kern

- o Alameda
- o Contra Costa
- o Santa Clara
- o San Mateo
- o San Francisco
- o Sacramento

The study will focus on the recycling potential of the following recyclable materials:

- | | |
|-------------------------------|---------------------------|
| o Glass | o White ledger paper |
| o Aluminum | o Colored ledger paper |
| o Ferrous metal cans | o Mixed waste paper |
| o PET containers | o Computer printout paper |
| o HDPE containers | o Newspaper |
| o Scrap metal | o Magazines |
| o AB 2020 beverage containers | o Corrugated paper |
| | o Chipboard |

The contractor will provide the Board with a report assessing the potential of these materials for recycling.

III. Small Business Preference

NOTICE TO ALL BIDDERS: Section 14835 et seq. of the California Government Code requires that a five percent preference be given to bidders who qualify as a small business. The rules and regulations of this law, including the definition of a small business for the delivery of services, are contained in Title 2, California Administrative Code, Section 1896 et seq. A copy of the regulations is available upon request from the State Office of Small and Minority Business. To claim the small business preference, which may not exceed \$50,000 for any bid, your firm must have its principal place of business located in California and be verified by the State Office of Small and Minority Business. Questions regarding the preference approval should be directed to that office at (916) 322-7122.

IV. Description of Work

A. Tasks

The bid shall consist of the applicant's response indicating ability to perform the following tasks. For each of the requirements identified below, the applicant must indicate whether or not the requirement can be completely satisfied. If any part cannot be met, the applicant must indicate the reasons why it cannot be met.

1. The successful bidder shall produce several outputs for the Board as described below.

a. An estimate of the availability of recoverable materials in the 12 major waste generating counties in California.

b. An accounting of the amount of waste currently diverted through materials recovery in each of the selected counties.

c. An identification of potentially recoverable materials, such as plastics, which are currently under-recovered in California and a determination of the conditions which would need to prevail to increase their recovery.

d. An identification of the available secondary materials markets, their capacities, and potential for expansion.

e. A literature search of existing studies which provide data on recyclable materials in the solid waste stream in California and on the amounts already being recovered.

2. Drafts of a final study report shall be prepared and submitted to Board staff for comments and approval 30 days prior to acceptance of the final report by the Board.

3. The contractor shall supply 200 bound copies of the final report. In addition, a camera ready copy of the report, together with an IBM-compatible computer disk, encoded with the report in a format specified by Board staff, shall be supplied by the contractor upon completion of the contract study.

4. The contractor shall present, in writing, monthly status reports to Board staff and shall meet with Board staff every six (6) weeks to discuss the progress and receive Board comment, unless otherwise specified by the Board.

B. Budget

The Board has budgeted a maximum of \$45,000 for this study, to be allocated from the Board's 1986-87 budget, subject to availability of funds.

C. Term

The term of the agreement for these services shall be for six (6) months beginning June 30, 1987 (or date of approval by the Department of General Services, whichever is later).

V. Minimum Bid Requirements

A. Procedure for Preparing Bid

Bid preparation costs shall not be reimbursed under this contract.

Bids received within the prescribed deadline shall become the property of the Board and all rights to the content therein shall become the property of the Board.

1. Deadline

All bids must be received (NOT POSTMARKED) by no later than 4:00 p.m., on May 25, 1987, and addressed to:

California Waste Management Board
ATTN: Carole Brow, Resource Conservation Division
1020 Ninth Street, Suite 300
Sacramento, CA 95814

Bids received after the above time and date will not be considered and will be returned unopened to the bidder.

2. Format

The bid is comprised of two parts: the bid package by which the Board will determine whether the bidder qualifies as a bidder and The Bid Price and Cost Proposal which the Board will use to select the lowest "qualified" bidder for contract award, subject to the conditions stated in VI and VIII below.

a. Bid Price and Cost Proposal

Bid price and cost information must be prepared by submitting the information requested on Attachment C, Bid Price and Cost Proposal. The Bid Price and Cost Proposal must be placed in a SEPARATE, SEALED ENVELOPE, clearly marked "Bid Price and Cost Proposal." This envelope will not be opened until the bidder has been found to qualify as described in VI B, "Selection Process," below. The bidder should submit one copy of The Bid Price and Cost Proposal.

The State will not reimburse either travel or per diem costs outside of the contract. If travel and per diem costs are a factor to bidders, bids should contain these costs. If such costs are included, bidders must factor travel and per diem costs into the Bid Price and Cost Proposal. The maximum rates allowable are those established in Title 2, California Administrative Code, Sections 599.619 and 599.631 (summarized in Exhibit D of Attachment D, the sample standard contract form attached to this IFB.)

b. Bid Package

Each bid package shall contain, in writing, as a minimum:

(1) Methodology

The methods to be employed by the contractor to accomplish the project objectives must be described in sufficient detail that the Board can evaluate those methods. The proposal must include a work schedule for the project manager and team which shows how the

proposed project fits in the context of other of the contractor's projects. It is anticipated that a contract will be awarded in June, 1987, and completed by January, 1988.

(2) Identification of Prospective Contractor

The bid shall include the name of the firm submitting the bid, its mailing address, telephone number, and the name of an individual to contact if further information is desired.

(3) Nondiscrimination

The prospective contractor must be an Equal Opportunity Employer and must be willing to comply with State Fair Employment Practices. The signature of and date affixed by the prospective contractor on the Cover Letter required by Section VA2b(4), below, shall constitute a certification under penalty of perjury under the laws of the State of California that the bidder has, unless exempted, complied with the nondiscrimination program requirements of Government Code Section 12990, and Title 2, California Administrative Code, Section 8103.

(4) Signed Cover Letter

A cover letter, which shall be considered an integral part of the bid, shall be signed by an individual(s) who is(are) authorized to bind the bidder contractually. This cover letter must indicate the title or position which the signer holds in the bidder's firm. The letter shall contain a statement to the effect that the bid is a firm and irrevocable offer for a 90-day period. The bid shall also provide the following: name, title, address, and telephone number of individuals with authority to negotiate on behalf of and contractually bind the company. This letter, as required by the paragraph VA2b(3), above, constitutes certification by the bidder, under penalty of perjury, that the bidder complies with the California State Nondiscrimination Program requirements. An unsigned bid, or one signed by an individual not authorized to bind the bidder shall be rejected.

(5) Small Business Preference

If the bidder is claiming the Small Business Preference, he or she must clearly state in the Cover Letter required in subparagraph VA2b(4), above, that he or she is claiming the preference. The bidder must also furnish the Small Business Certification Number.

(6) Conflict of Interest

The prospective contractor shall disclose any present or prior financial, business, or other relationship with the California Waste Management Board that may have an impact upon the outcome of the project. The prospective contractor shall also list current clients subject to any discretionary action by the Board, or who may have a financial interest in the policies and programs of the Board.

(7) Experience

A statement describing the bidder's experience must be provided. To qualify, a bidder must have a minimum of three years experience with projects of similar nature and complexity in technical, engineering, scientific or environmental regulatory areas.

(8) Samples of Written Work

Each bidder must submit one (1) sample of a report written by the bidder for a study conducted by the bidder in the subject areas specified in subparagraph VA2b(7), above.

(9) Client References

Each bid shall include a minimum of three client references which attest to the bidder's qualifications to conduct a study of recycling and to produce a report of the results of such a study. A summary statement for each assignment shall be provided. The references shall include the name and telephone number of a contact person who can be interviewed regarding the effectiveness of the proposer's personnel and ability to complete projects on time. Negative responses from references may be cause for rejection of the bid.

3. Copies

Fifteen (15) copies of the entire bid package must be submitted in a sealed envelope marked with the bidder's name and address and the following statement:

"IFB -- DO NOT OPEN UNTIL 4:00 P.M., MAY 25, 1987"

In addition, one unbound, reproducible copy shall be provided and clearly marked "MASTER".

Only one copy of the Bid Price and Cost Proposal needs to be provided.

VI. Evaluation and Selection

A. Failure to Fulfill Minimum Bid Requirements

All bids will be reviewed to determine which bids meet the Minimum Bid Requirements contained in Section V. Failure to meet or demonstrate meeting the Minimum Bid Requirements will be grounds for rejection without further consideration. The State may reject any bid if it is conditional, incomplete or contains irregularities. The State may waive an immaterial deviation in a bid. The State's waiver of an immaterial defect shall in no way modify the IFB documents, or excuse the bidder from full compliance with the contract requirements if the bidder is awarded the contract. Failure to clearly state in the Cover Letter that the bidder is claiming the Small Business Preference will result in the Bidder not being given the preference.

B. Selection Process

This IFB contains a "low bid" selection process. The process begins with a threshold evaluation by which qualified bidders will be selected. Only those bidders obtaining a score of at least 75 out of 100 points will be considered qualified bidders. The minimum bid requirements and the evaluation criteria are presented in Attachment A. The Bid Rating Sheet derived from these criteria is presented in Attachment B. The contract award made hereunder will be based on the lowest bid among the qualified bidders. Pursuant to 2 CAC 1896 et seq., a bidder who is certified as a Small Business will be granted a preference consisting of 5 percent of the lowest responsible bid, if that low bid has been submitted by a bidder who is not certified as a Small Business. If, after deduction of the 5 percent preference from a Small Business Bidder's bid, the bid is equal to or less than the lowest bid, the bid shall be awarded to the Small Business.

1. Interview for Clarification

Bidders who meet the Minimum Bid Requirements set forth in Section V., above, may be asked to present themselves for an interview with staff or Board Members to clarify their bids. This interview may occur at any time during the bid evaluation process. The purpose of this interview will be for clarification only; no bidder will be allowed to alter his or her bid or add new information. Any attempt on the part of the bidder to do so will result in the disqualification of that bidder.

2. Award of Contract

SEPARATE sealed envelopes, containing the Bid Price and Cost Proposal, will be opened for those proposals meeting the Minimum Bid Requirements, stated above. The contract will then be awarded to the lowest qualified bidder.

Consideration will be made for small business preference as stated above.

3. Notice of Award

Notice of the proposed contract award will be posted in the Board's Sacramento offices for at least five business days, beginning June 18, 1987. The award will be deemed final and the contract will be executed on or after the sixth business day after the above date.

4. Confidential Information

Prior to award of the contract, all bids will be designated "confidential" to the extent permitted by the California Public Records Act (Government Code Section 6250 et seq.). After award of the contract, copies of all responses and evaluations will be regarded as public records and will be available for review by the public at the Board's offices. Any bid which contains language purporting to render all or part of the bid confidential shall be regarded as non-responsive to the IFB, and the bid will be rejected.

VII. Schedule for Award of Contract

April 27, 1987	Advertisement published in State Contracts Register.
May 25, 1987	Bids must be received by 4:00 p.m. Bids will be opened and evaluation will begin.
June 18, 1987	Determination of lowest responsible bidder. Posting of award of contract.
June 26, 1987	Award of contract final. (Sixth business day from posting date)

VIII. Limitations

A. Amendments

The State reserves the right to amend the IFB by addendum prior to the final date of bid submission.

B. Information

All information obtained or produced during the course of work shall be made available to the Board for its use as it may so determine.

C. Commitment

The IFB does not commit the State of California or any of its agencies, departments or divisions to award a contract, to pay any costs incurred in preparation of a bid responding to this IFB, or to procure or contract for services or supplies.

The Board reserves the right to accept or reject any or all bids received as a result of this IFB, to negotiate with any qualified source, or to cancel in part or in its entirety this IFB, if it is in the best interests of the State of California to do so.

If the selected bidder fails to negotiate a satisfactory contract with the Board within a reasonable time after the award, the Board may offer to negotiate with the next runner-up, without further advertising, issuance of another IFB, or evaluation of bidders. The Chief Executive Officer shall determine when negotiations have broken down with the first selected bidder, and whether to offer to negotiate with the next runner-up. This procedure shall apply to negotiations with lower-ranked runners-up in order of original ranking, if negotiations cannot be successfully completed with any bidder.

D. Termination

The Board has the authority and express right to terminate any contract awarded to the contractor/s pursuant to the IFB at any time during the term of the contract for any reason or if the Board finds that the contractor's work is negligent, not satisfactory, or not in accordance with the agreed upon work program. In the event of termination the contractor shall be entitled to payment for approved costs incurred prior to the effective date of termination.

IX. Contract Terms and Conditions

A. State Contract Terms

Attachment D is a copy of the major contract terms included in contracts executed by the State of California and this agency. The actual final terms of the contract to be awarded pursuant to this IFB may differ from the example so that the contract appropriately reflects the service and work to be purchased by the Board. Actual cost items may exceed or be less than projected in Attachment C, Bid Price and Cost Proposal.

B. Start of Work

Once the final contract award is made, work shall not begin until the contract is approved by the Department of General Services.

C. Reporting Requirements

Written progress reports shall be submitted monthly, summarizing progress achieved during the preceding month and planned activities for the current month. Progress reports shall be submitted by the fifth working day of the month.

Meetings with Board staff will be scheduled each six week period.

D. Contractor Evaluation

Within thirty (30) days after completion of work under this agreement the contractor's performance shall be evaluated by the Board and a report filed with the Department of General Services.

E. Payment

Progress payments will be made on a monthly basis, in arrears, based on a monthly invoice and written progress report which must be received with the invoice. The written progress report must be judged acceptable by Board staff before payment will be authorized. Ten (10) percent of each payment will be withheld, to be paid on the satisfactory completion of the contract.

STUDY OF RECYCLING IN CALIFORNIA

MINIMUM BID REQUIREMENTS AND EVALUATION CRITERIA

MINIMUM BID REQUIREMENTS

1. Deadline
2. Format
 - a. Bid Price and Cost Proposal
 - b. Bid Package
3. Written Requirements for bid package
 - a. Methodology
 - b. Identification of Prospective Contractor
 - c. Nondiscrimination Certification
 - d. Binding Signature and Cover Letter
 - e. Small Business Certification (if requesting preference)
 - f. Statement of Conflict of Interest
 - g. Minimum of three years related experience
 - h. Sample of a report from similar project
 - i. Reference from 3 clients
4. Required Number of Copies

EVALUATION CRITERIA

All bids meeting the Minimum Bid Requirements will be evaluated and scored in accordance with the procedures and methods adopted by the Board, using the criteria listed below and incorporated in the Bid Rating Sheet, Attachment B. Those bids receiving qualifying scores will be opened to determine the lowest bid.

The prospective contractor shall address in writing the following items:

1. Resources
 - a. Management The prospective contractor shall designate by name the project manager to be employed. The experience of the project manager must be discussed in writing in the bid. The selected contractor shall not substitute the project manager without prior approval of the Board.

b. Personnel The prospective contractor shall describe the qualifications of all professional personnel to be employed, including a summary of similar work performed, a resume for each professional, a statement indicating how many hours each professional will be assigned to the project, and what tasks each professional will perform. The contractor shall not cause members of the project team to be substituted without prior approval of the Board.

c. Subcontracts If any subcontractors are to be used, the prospective contractor must submit a description of each person or firm, the work to be done by each subcontractor, the cost of the work, and a sample of similar work completed by the proposed subcontractor. All subcontracts must be approved by the Board, and no work may be subcontracted without the prior approval of the Board. In addition, the prospective contractor must indicate the cost of any subcontracts and any markup that the prospective contractor plans to take on subcontracts.

2. Methodology

The prospective contractor's responsiveness to the IFB and overall approach to the Board's project will be evaluated, based on the techniques proposed to accomplish the project objectives. The prospective contractor shall describe the overall approach to the project, specific techniques that will be used, and specific administrative and operational management expertise that will be employed. The prospective contractor's capability to successfully complete the Board's project will be evaluated based on the proposed work schedule and allocation of staff resources.

3. Qualifications

The prospective contractor's qualifications for the Board's project will be evaluated, based on the individual qualifications and experience of the project manager, the project team and any proposed subcontractors.

4. Past Work

The prospective contractor's past work record will be reviewed to determine the success of past projects and any related work record. The exhibits submitted by the prospective contractor to illustrate the ability to produce the materials desired by the Board will be evaluated based on quality.

The prospective contractor shall provide references from three (3) clients for whom the prospective contractor has performed technical and management assignments of similar complexity to that proposed in this request. A summary statement for each assignment shall be provided. The references shall include the name and telephone number of a contact person who can be interviewed regarding the effectiveness of the proposer's personnel and ability to complete projects on time. Negative responses from references may be cause for rejection of the bid.

Bid Rating Sheet
Study of Recycling in Major Waste Generating Counties

I. Resources

Information on management, personnel, and subcontracts is provided as required by the Evaluation Criteria section of this IFB.	Maximum 10 points
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II. Methodology

Contractor's responsiveness to the IFB and overall approach; description of approach, techniques, administrative and operational expertise; schedule.	Maximum 40 points
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III. Qualifications

Qualifications of key professional and technical staff and ability to conduct the necessary research with proficiency and accuracy and without omission. Direct technical supervisors and key personnel must be named and resumes of their professional background and experience must be submitted.	Maximum 20 points
------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------	----------------------

1. Project Manager (10 points)

2. Project Team & subcontractors (10 points)

IV. Past Work

The prospective contractor's past work record will be reviewed to determine the success of past projects and any related work record. The exhibits submitted by the prospective contractor to illustrate the ability to produce the materials desired by the Board will be evaluated based on quality. References may be consulted.	Maximum 30 points
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BID PRICE AND COST PROPOSAL RECYCLING STUDY

Submit this form in a separate, sealed envelop, marked "Bid Price and Cost Proposal". The total bid price and cost proposal will not necessarily be the amount of the contract. However, the rates quoted by the successful bidder will become part of the final contract and may not be changed during the term of the contract.

The items and tasks in the left-hand column are abbreviated from Section IV A, "Tasks," in the Invitation for Bids. Bidders should examine Section IV A and calculate rates from the tasks described there and not from the abbreviated version shown below.

1. Outputs

Recoverable material availability estimates.	\$ _____
Current recovery level estimates.	\$ _____
Under-recovered materials analysis.	\$ _____
Secondary materials markets analysis.	\$ _____
Literature search.	\$ _____
TOTAL	\$ _____

2. Study report preparation

Collect and analyze data.	\$ _____
Submit draft report & respond to comments.	\$ _____
Prepare final report for Board approval.	\$ _____
TOTAL	\$ _____

3. Final report publication

200 bound copies.	\$ _____
1 Camera-ready copy.	\$ _____
1 IBM-compatible computer disk copy.	\$ _____
TOTAL	\$ _____

4. Administrative

Overhead.	\$ _____
Monthly status reports.	\$ _____
Meetings with Board staff.	\$ _____
TOTAL	\$ _____

TOTAL BID PRICE

\$ _____

Contractor: _____Contract: _____

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EXHIBITS

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- B Budget
- C Implementation Schedule
- D Instructions for Submittal of Invoices
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Article 1

State's Minimum Contract Requirements

1. The Contractor agrees to indemnify, defend and save harmless the State, its officers, agents and employees from any and all claims and losses accruing or resulting to any and all contractors, subcontractors, materialmen, laborers and any other person, firm or corporation furnishing or supplying work, services, materials or supplies in connection with the performance of this Agreement, and from any and all claims and losses accruing or resulting to any person, firm or corporation who may be injured or damaged by the Contractor in the performance of this Agreement.
2. The Contractor, and the agents and employees of Contractor, in the performance of this Agreement, shall act in an independent capacity and not as officers or employees or agents of State of California.
3. The State may terminate this Agreement and be relieved of the payment of any consideration to Contractor should Contractor fail to perform the covenants herein contained at the time and in the manner herein provided. In the event of such termination the State may proceed with the work in any manner deemed proper by the State. The cost to the State shall be deducted from any sum due the Contractor under this Agreement, and the balance, if any, shall be paid the Contractor upon demand.
4. Without the written consent of the State, this Agreement is not assignable by Contractor either in whole or in part.
5. Time is the essence of this Agreement.
6. No alteration or variation of the terms of this Agreement shall be valid unless made in writing and signed by the parties hereto, and no oral understanding or agreement not incorporated herein, shall be binding on any of the parties hereto.
7. The consideration to be paid Contractor, as provided herein, shall be in compensation for all of Contractor's expenses incurred in the performance hereof, including travel and per diem, unless otherwise expressly so provided.

Article 2

Definitions

In interpreting this Agreement, the following terms shall have the meanings given to them below, unless the context clearly indicates otherwise.

- A. "Board" shall mean the California Waste Management Board.
- B. "Executive Officer" shall mean the Executive Officer of the California Waste Management Board.
- C. "State" shall mean the State of California, including but not limited to, the California Waste Management Board and/or its designated officer.
- D. "Contractor" shall mean the recipient of funds pursuant to this Agreement.
- E. "Subcontractor" shall mean a person or entity which contracts with the Contractor to perform all or a portion of the work as specified in the Scope of Work, Exhibit A.

Article 3

Entire Agreement

This Agreement supersedes all prior agreements, oral or written, made with respect to the subject hereof and, together with the Exhibits hereto, contains the entire agreement of the parties.

Article 4

Services

The Contractor shall undertake and perform or cause to be performed through a subcontractor(s) the services as set forth in the Scope of Work, Exhibit A. The allowable costs for performing said services shall be for an amount not to exceed the amount of this Agreement.

Article 5

Subcontractors

The Contractor shall be entitled to make use of its own staff and such subcontractor(s) as are mutually acceptable to the Contractor and the State. All subcontractor(s) specifically identified in the Scope of Work are considered to be acceptable to the State. Any change in subcontractor(s) which have been found to be acceptable by the State, shall be subject to either a contract amendment or written change order.

All contracts between the Contractor and subcontractor(s) shall be subject to approval of the Executive Officer.

The Contractor shall be responsible for the work of subcontractor(s) including but not limited to monitoring of task performance, initiating action to expedite completion, maintaining the work on schedule, or adjusting the schedule to compensate for unavoidable delays. The Contractor is also responsible for controlling costs and maintaining accurate records of invoices received from subcontractor(s).

The Contractor shall incorporate the provisions of Articles 9 and 10 into any subcontract(s) which may be entered into in the performance of or which relates to this Agreement. Subcontractors shall be subject to any audits related to work performed as a part of, or in relation to, this Agreement, as specified in Article 10.

Article 6

Budget

The Budget, Exhibit B, states the maximum amount of allowable costs for each of the tasks identified in the Scope of Work.

In the event the Contractor's projection of costs indicates a need to revise Exhibit B, it shall be incumbent upon the Contractor to notify the State within ten (10) working days of the discovery of need for revision.

The parties hereto acknowledge that certain types of cost adjustments may be made by a written change order or contract amendment as defined in Article 7. Under no circumstances will cost adjustments be allowed without prior approval of the Executive Officer.

If mutual agreement in regard to a revised cost estimate cannot be reached, the Executive Officer may refer the dispute to the Board in accordance with Article 17.

Article 7

Modifications - Changes

By written change order, the California Waste Management Board's Executive Officer may at any time during the effective period of the contract order changes within the Agreement without invalidating this contract, so long as such changes do not increase the amount due under the contract, extend the term of the Agreement or result in a substantial change in the Scope of Work. The latter changes shall require a formal contract amendment.

Article 8

Communications

All official communication from the Contractor to the State shall be directed to Executive Officer, California Waste Management Board, 1020 9th Street, Suite 300, Sacramento, CA 95814, Attention: Contracts Section.

All formal notices authorized by Articles 6, 14 and 15 or otherwise required between the parties shall be given in writing and sent by prepaid certified mail, addressed to the party intended to receive it. Notices may also be given by personal delivery or sent by telex, in which case said notice shall be deemed given on the date telex is sent. The receiving party shall confirm the message by certified mail in the same manner as provided above within five (5) calendar days thereafter.

Article 9

Accounting Records

The Contractor shall maintain financial records, in accordance with generally accepted accounting principles, of expenditures incurred during the course of the project including matching funds that may be required. Such records shall be readily available for inspection by the State.

Subcontractor(s) employed by the Contractor and paid with monies under the terms of this Agreement, shall be responsible for maintaining accounting records as specified in the above paragraph.

Article 10

Audits

The Contractor agrees that the Board, the State Controller's Office and the State Auditor General's Office, or their designated representatives shall have an absolute right of access to all of the Contractor's records pertaining to the Agreement to conduct reviews and/or audits. Contractor's records pertaining to the Agreement, or any part thereof requested, shall be made available to the designated auditor(s) upon request for the indicated reviews and/or audits. Such records shall be retained for at least three years after expiration of the Agreement; or until completion of the action and resolution of all issues which may arise as a result of any litigation, claim, negotiation or audit, whichever is later.

If an audit reveals the State funds are not being expended, or have not been expended in accordance with the Agreement, the Contractor may be required to forfeit the unexpended portion of the funds and/or repay the State for any improperly expended monies.

Article 11

Confidentiality/Public Records

The Contractor and the State understand that each party may come into possession of information and/or data which may be deemed confidential or proprietary by the person or organization furnishing the information or data. Such information or data, whether in any form of electronic, mechanical or other recording, in the possession of the State, may be subject to disclosure under the California Public Records Act, commencing with Government Code Section 6250. The State agrees not to disclose such information or data furnished by the Contractor and to maintain such information or data as confidential when so designated by the Contractor in writing at the time it is furnished to the State, only to the extent that such information or data is exempt from disclosure under the California Public Records Act. In addition, both the State and the Contractor agree not to use such confidential or proprietary information for any purpose other than performance of this Agreement.

Obligations of the parties with respect to such confidential and proprietary information will terminate after any date on which:

- (i) such information appears in issued patents or printed publications or is shown to be in public domain for reasons other than breach of this Agreement; or
- (ii) the party receiving such information can show by written records that such information was in its possession prior to acquiring such information from the other party or that such information has legally come into its possession through independent channels; or that such information was independently developed by its employees who did not have knowledge of such information.

Article 12

Publicity and Acknowledgement

The Contractor agrees that it will acknowledge the California Waste Management Board support whenever projects funded, in whole or in part, by this Agreement are publicized in any news media, brochures, or other type of promotional material.

Article 13

Successors and Assigns

The provisions of the Agreement shall be binding upon and inure to the benefit of the State and the Contractor and their respective successors and assigns. But this provision shall not be deemed to expand or otherwise affect the limitations on assignment and transfers set forth in Article 15 and no party is intended to or shall have any right or interest under the Agreement, except as specifically provided herein.

Article 14

Stop Work Notice

Immediately, upon receiving a written notice to stop work, the Contractor shall cease all work under this Agreement.

Article 15

Discretionary Termination or Assignment of Agreement

The State shall have the right to terminate this Agreement at its sole discretion at any time upon 30 days written notice to the Contractor. —In the case of early termination, a final payment will be made to the Contractor upon receipt of a financial report and invoices covering costs incurred to termination, and a written report describing all work performed by the Contractor to date of termination. The total of all payments, including the final payment, shall not exceed 90 percent of the amount of this Agreement.

The State, in lieu of terminating the Agreement, shall have the right to require the Contractor to assign its rights and obligations under this Agreement to the party or parties chosen by the State at its sole discretion.

The State may exercise this right pursuant to the above paragraph after a determination by the Board that the assignment is in the best interest of the State. The Contractor agrees to execute said agreement immediately upon 15 days written notice to the Contractor from the State.

Article 16

Contract Violations

Upon receipt of information that any of the conditions of the grant of funds enumerated in Government Code Sections 66788-66789.4 or this Agreement has been violated by Contractor, the Board shall cause an investigation to be made to determine whether a violation has occurred. If, after notice and public hearing, the Board finds that a violation has occurred, the Agreement shall immediately terminate. The Contractor shall be required to repay all funds received from the Board under this Agreement or transfer possession of all materials and equipment purchased and return the balance of funds received and not expended for such material and equipment and render an accounting of all money received.

Article 17

Disputes

If for any reason the Contractor and the Executive Officer cannot reach mutual agreement, the Contractor may refer the dispute to the California Waste Management Board for final resolution.

Article 18

Remedies

Unless otherwise expressly provided herein, the rights and remedies hereunder are in addition to, and not in limitation of, other rights and remedies under the Agreement, at law or in equity, and exercise of one right or remedy will not be deemed a waiver of any other right or remedy.

Article 19

Severability

Any provisions hereof prohibited by or unlawful or unenforceable under any applicable law of any jurisdiction shall, as to such jurisdiction, be ineffective without affecting any other provision of the Agreement. To the full extent, however, that the provisions of such applicable law may be waived, they are hereby waived, to the end that the Agreement be deemed to be a valid and binding Agreement enforceable in accordance with its terms.

Article 20

Compliance

The Contractor shall comply fully with all applicable federal, state and local laws, ordinances, regulations and permits. The Contractor shall secure any new permits required by authorities having jurisdiction over the project, and shall maintain all presently required permits. The Contractor shall ensure that the requirements of the California Environmental Quality Act are met for any permits or other entitlements required to carry out the terms of this Agreement.

Article 21

Force Majeure

Neither the State nor the Contractor, including the Contractor's subcontractor(s), if any, shall be responsible hereunder for any delay, default or nonperformance of this Agreement, other than the payment of monies due hereunder, to the extent that such delay, default or nonperformance is caused by an act of God, weather, accident, labor strike, fire, explosion, riot, war,

rebellion, sabotage, flood, epidemic, act of government authority in either its sovereign or contractual capacity, labor, material, equipment or supply shortage, or any other cause beyond the reasonable control of such party.

Article 22

Controlling Law

All questions concerning the validity and operation of the Agreement and the performance of the obligations imposed upon the parties hereunder shall come within the jurisdiction of and be governed by the laws of the State of California.

Article 23

Pursuant to Public Contract Code Section 10370, this article constitutes notification to the contractor that the state agency will conduct an evaluation of contractor's performance under this contract after completion of the contract and forward the report to the Department of General Services, pursuant to Public Contract Code Section 10369.

Article 24

Special Conditions

1. Payment

The State shall reimburse the Contractor for performing only those services as specified in the Budget, Exhibit B of this Agreement.

Payment to the Contractor shall be made in arrears, not more frequently than monthly, upon receipt of a detailed invoice, in triplicate, as specified in Exhibit D. All invoices must be submitted with a Progress Letter as outlined in Subsection 2 of this Article.

The State shall withhold payment equal to 10 percent of each invoice until completion of all work and other requirements to the satisfaction of the State in accordance with Subsection _____ of this Article.

2. Progress Letters

The Contractor shall submit to the Executive Officer a

Progress Letter no less frequently than monthly. The Progress Letter shall be in such detail as to define the actual work performed by the Contactor as specified in the Scope of Work. The Progress Letter shall include work status, specific work progress, percent of completion of each task; and if appropriate difficulties encountered during the reporting period and remedial action taken. A statement of activity anticipated during the subsequent reporting period, including a description of equipment, techniques and materials to be used or evaluated is also required. The letter shall also include any changes of personnel assigned to the project.

3. Ownership of Drawings, Plans and Specifications

The State shall have separate and independent ownership of all drawings, design plans, specifications, notebooks, tracings, photographs, negatives, reports, findings, recommendations, data and memoranda of every description or any part thereof, prepared under this Agreement, and the originals and all copies thereof shall be delivered to the State upon request. The State shall have the full right to use said originals and copies in any manner when and where it may determine without any claim on the part of the Contractor, its vendors or subcontractors to additional compensation.

4. Copyrights and Trademarks

The Contractor agrees to establish for the State good title in all copyrightable and trademarkable materials developed as a result of this Agreement. Such title shall include exclusive copyrights and trademarks in the name of the State of California.

As used herein, "copyrightable material" includes all materials which may be copyrighted as noted in Title 17, United States Code, Section 102, as follows: 1) literary works, 2) musical works, including any accompanying words, 3) dramatic works, including any accompanying music, 4) pantomimes and choreographics, 5) pictorial, graphic and sculptural works, 6) motion pictures and other audio visual works and 7) sound recordings. As used herein, "trademarkable material" means any material which may be registered as a trademark, service mark or trade name under the California Trademark Law, cited at Business and

Professions Code (B&PC) Sections 14200-14342. "Trademark" is defined by B&PC Section 14207. "Service mark" is defined by B&PC Section 14206. "Trade name" is defined by B&PC Section 14208. Contractor agrees to apply for and register all copyrights and trademarks, as hereabove defined, in the name of the State of California, for all materials developed

pursuant to this Agreement which may under the applicable law be copyrighted or for which a trademark may be registered. Failure to comply with this article when such failure results in the loss of the exclusive right of the State to use, publish or disseminate such materials, when such failure and result occur during the term of the contract, constitutes breach of contract. If such breach occurs, the State may invoke Article 1, Subsection 3 and Article 16.

5. Patents

The Contractor shall, subject to the terms herein, have all right, title and interest in and to each invention or discovery conceived of or first actually reduced to practice in the course of or under this Agreement, and shall take all steps to acquire a patent thereto if such invention or discovery is likely to have significant value. The State shall have a nonexclusive, royalty free license in any such invention or discovery when used for State purposes. Any person wanting to use the invention or discovery shall receive a nonexclusive license subject to reasonable royalties. The Contractor agrees to pay the State fifty percent (50%) of all royalties accrued as a result of this Agreement, to a maximum equal to the amount funded under this Agreement.

6. Reports

The Contractor shall provide ten (10) copies of a draft version of the Final Report. Review comments shall be prepared and transmitted by the State to the Contractor within seven (7) days of receipt of the draft version of the Final Report.

After incorporation of revisions of State submitted comments, the Contractor shall, submit to the Board, one camera ready copy plus 100 copies of the Final Report.

Pursuant to Government Code Section 7550, the Contractor shall include, on a separate page, in any document or written report prepared pursuant to this contract, the dollar amounts of all contracts and subcontracts relating to the preparation of the document or written report.

The Contractor shall also include in any publication resulting from work performed under this contract an acknowledgement substantially as follows: "The work upon which this publication is based was performed pursuant to a contract with the California Waste Management Board." The Contractor shall place the following notice, preceeding the text, on draft reports, on the Final Report, and on any other publication or report resulting from work performed under this Agreement:

DISCLAIMER

"The statements and conclusions of this report are those of the Contractor (and subcontractor(s) and not necessarily those of the California Waste Management Board, its employees, or the State of California. The State makes no warranty, express or implied, and assumes no liability for the information contained in the succeeding text."

7. Equipment

In the event the Contractor purchases equipment valued at more than \$150, other than motor vehicles, to perform work under this Agreement, title to such equipment shall vest in the State upon delivery thereof into the Contractor's control or possession. All equipment purchased must have been previously described in Exhibit B.

The Contractor shall maintain and administer, in accordance with sound industrial practice, the program for the utilization, maintenance, repair, and preservation of State equipment, whether acquired from the State or purchased for a third party, so as to assure its full availability and usefulness for the performance of this Agreement. All State equipment will be suitably tagged, and location records will be maintained. The Contractor shall take all reasonable steps to comply with all appropriate directions or instructions that the State may prescribe as reasonably necessary for the protection of State equipment. Should this Agreement be terminated prior to the Agreement expiration date, or should the program cease to operate, all State equipment shall be returned to the State in acceptable operating condition or disposed of as directed.

In the event that the Contractor purchases any type of motor vehicle under this Agreement, such vehicle shall be registered with the Department of Motor Vehicles so that the Contractor is registered as the Registered Owner and the California Waste Management Board is registered as the Legal Owner.

Upon receipt of each motor vehicle's pink slip, the Contractor shall immediately forward the pink slip to the Board to be held until such time as the equipment has been disposed of in accordance with Section _____ of this Agreement.

In the event the Contractor receives funding from any other source for equipment which was purchased under this Agreement, the Contractor shall reimburse the Board for an amount equal to the value of the equipment. Value shall be determined by applying the straight line method of depreciation to the purchase price of the equipment for a period of five years.

8. Competitive Bid Requirements

Services and equipment purchases under this Agreement in excess of \$5,000 shall be obtained on a competitive bid basis. The Contractor shall purchase goods or services from the lowest responsible bidder or pay the difference between the low bid and the one selected. All payment requests shall document the competitive selection by including copies of at least three bids for services and equipment subject to this condition.

In accordance with State Administrative Manual Section 3555, this condition may be waived under the following special circumstances:

1. cost of service or equipment does not exceed \$5,000 in total costs;
2. used equipment is being purchased and the Contractor certifies that multiple pieces of used equipment meeting Contractor specifications are not available; and
3. the Contractor certifies that due to the unique nature of service or specifications of equipment that a sole source purchase is justified.

9. Used Equipment Purchase Requirements

The Contractor shall make every reasonable effort to acquire used equipment instead of new to carry out this Agreement. If the Contractor purchases new equipment, the Contractor shall explain its efforts to obtain used equipment, certifying after such explanation as follows:

"I, (Contractor), hereby certify on behalf of (Project Title) that the efforts set forth above to obtain used equipment were truly and diligently pursued, and that used equipment is not available or will be unduly expensive when costs to transport it from its present location, recondition it, and provide the additional maintenance needed are included in its price."

If the Contractor purchases used equipment, purchase cost shall not exceed "blue book" or fair market values. In special circumstances this condition may be waived upon prior approval of the Executive Officer.

10. Disposition of Equipment

All equipment purchased under the terms of this Agreement shall be the property of the State from purchase date, but shall be available to the Contractor during the term of this Agreement for the purposes outlined in the Scope of Work, Exhibit A. The Contractor shall request disposition instructions from the State upon termination of the contract and/or under the following circumstances:

- a. If the Contractor ceases to use or need the equipment for the purposes stated in this Agreement.
- b. If the Contractor ceases to operate the program identified in this Agreement.
- c. If the Contractor wishes to relocate or modify the equipment.
- d. If the equipment is stolen or damaged.

11. Insurances

The Contractor shall obtain, and keep in force for the term of this agreement, and require its subcontractors to obtain and keep in force, the following insurance policies which cover any acts or omissions of the Contractor, or its employees engaged in the provision of service specified in this Agreement.

- a. Worker's Compensation Insurance in accordance with the statutory requirements of the State where the work is performed.
- b. Comprehensive personal injury liability insurance, including coverage for owned, hired and nonowned automobiles.
- c. Comprehensive property damage liability insurance, including coverage for owned, hired and nonowned automobiles.
- d. Equipment and motor vehicle coverage at a level sufficient for replacement of State property.

The Contractor shall name the California Waste Management Board as an additional insured party for all insurances required.

The Contractor shall be responsible for guaranteeing that a copy of each Certificate of Insurance received for the

policies issued is submitted to the Board within 30 days of contract signature.

The Contractor promises that the Board shall receive advance notification of any insurance policy cancellation or substantial change to a policy.

Public entities which are self-insured shall submit a letter to the Board to that effect, which also confirms the minimum coverages outlined above.

12. Site Leases

In all cases where the Contractor is not the legal owner of the project site, the Contractor shall provide documentation of a lease on such property for a minimum of five years from the effective date of this Agreement. Such requirement may be fulfilled by either a five year lease or combination of lease and options totaling at least five years provided that the Contractor has the sole control of the length of the lease commitment. Failure to comply with the provisions of this paragraph will result in the termination of this Agreement.

13. Site Improvements

In all cases where the Contractor is not legal owner of the property upon which improvements are to be made, the Contractor shall describe the proposed improvements in writing to the legal owner. Included in this correspondence, Contractor must inform the legal owner of any conditions related to the improvements which are imposed by the State. Legal owner approval must be obtained in writing prior to commencement of site improvements. A copy of the owner's written approval must be submitted within seven (7) days of receipt by the Contractor.

14. Liability for Cost of Site

If the Contractor constructs or improves a site with funds obtained through this Agreement and the project ceases to operate as specified in the terms of this Agreement, the Contractor shall be required to repay the State. Such repayment shall be in an amount equal to the unamortized dollar cost remaining to the improvements, plus interest,

from the effective date of this Agreement. The improvements shall be amortized at the rate of one-fifth (1/5) of the dollar cost of the unamortized improvements per year. Interest shall be calculated at ten percent (10%) per year, simple interest.

15. Reporting Requirements (Example)

- A. Implementation Schedule - Within thirty (30) days after contract signature, Contractor shall submit a project implementation schedule; upon submittal, this schedule shall become a portion of this Agreement. The implementation schedule shall include phased site improvements, equipment purchases and public awareness activities (including the Contractor's matching contributions). In all cases, site improvements and equipment purchases shall be scheduled for completion with the first twelve (12) months following the effective date of this Agreement.
- B. Monthly Reports - The Contractor shall submit monthly project reports for a period of 24 months, commencing upon final approval of the Agreement, using the prescribed format. The reports shall be submitted within fifteen (15) days of the period being reported.
- C. Quarterly Maintenance Reports - The Contractor shall submit quarterly reports on maintenance of State-owned equipment from the date of purchase for a period of five (5) years. The reports shall be submitted within thirty (30) days of the close of the calendar year quarter being reported using the prescribed format.
- D. Quarterly Project Status Report - Contractor shall provide quarterly project status reports for a period of five (5) years. Quarterly reports shall be submitted within thirty (30) days of the close of the calendar year quarter being reported, using the prescribed format.
- E. Final Report - Within thirty (30) days after the Agreement termination date, the Contractor shall submit a Final Report, using the prescribed format.

Failure to comply with the reporting requirements specified above may result in termination of this Agreement or suspension of any or all outstanding Payment Requests until such time as the Contractor has satisfactorily completed the reporting provisions.

In the event that the Contractor fails to provide a Final Report, the Contractor shall return all monies and/or equipment received under this Agreement to the State.

16. Discharge of Contract Obligations

The Contractor's obligations under this Agreement shall be deemed discharged only upon acceptance of the Final Report by the State. If requested, the Contractor shall make an oral presentation to the California Waste Management Board.

In the event the Contractor is a public agency, the governing body shall accept the final report prior to its submission to the State.

17. Contractors National Labor Relations Board Certification
(Private_Only)

The Contractor, by signing this Agreement, does swear under penalty of perjury that no more than one final unappealable finding of contempt of court by a Federal court has been issued against the Contractor within the immediately preceding two-year period because of the Contractor's failure to comply with an order of a Federal court which orders the Contractor to comply with an order of the National Labor Relations Board.

EXHIBIT A
Scope of Work

I. Purpose of Study

EXHIBIT B

Budget

EXHIBIT C
Implementation Schedule

EXHIBIT D

Instruction for Submittal of Invoice

General Information

1. The invoice must be submitted in triplicate with an original signature on at least one copy and supporting documentation (bids, receipts, cancelled checks, sole source justification, etc.) attached.
2. The invoice must be signed by the person who signed the contract or his/her designee. If there is a question as to the authority of the signer which cannot be resolved to the satisfaction of the State, the invoice will not be honored.
3. A proof of purchase receipt or cancelled check must be submitted for each item requested to be reimbursed. These items must contain sufficient information to establish that the specific purchase was made.
4. Only those items found in Exhibit B, Budget, are eligible for reimbursement. Any changes to the budget on the form must be approved by the Executive Officer before an expenditure for that item. If the change is approved, a new invoice will be prepared and mailed to the Contractor.
5. Payment requests may be submitted no more than once every thirty (30) calendar days.
6. Mail payment request to the following address:

California Waste Management Board
1020 9th Street, Suite 300
Sacramento, CA 95814
Attn: Name of Contract Manager

Travel Expenses - If travel expenses are allowed, the Contractor shall provide receipts for all lodging, food, travel-related incidental expenses and any air fare along with a statement regarding purpose of the trip. Actual lodging expenses, food and incidental expenses shall be reimbursed (not to exceed the maximum rate allowed by the State of \$75 per day per person) as indicated below:

Lodging	\$47.00
Breakfast	4.00
Lunch	7.00
Dinner	13.00
Incidental	4.00

TOTAL: \$75.00

If a vehicle is used for travel, mileage may be claimed at a rate not to exceed 30 cents per mile and upon certification that vehicle operation cost is at least this amount.

Withhold - If the contract calls for a withhold, 10% shall be deducted from every payment request and retained by the State until all the conditions stipulated in the contract have been satisfied.

Payment Process

1. The California Waste Management Board payment process will commence upon receipt by the contract manager of each payment request form and supporting documentation (including, but not limited to receipts, invoices, bids, cancelled checks, progress reports, etc.).
2. Upon review by the contract manager, the invoice will be forwarded to Board fiscal personnel.
3. After all Board staff approvals, payment requests shall be forwarded to the State Controller's Office for issuance of payment warrants.
4. It will be the responsibility of the Contractor to pay all subcontractors for purchased goods and services.

EXHIBIT E

Nondiscrimination Clause

(OCP - 2)

1. During the performance of this contract, the recipient, contractor and its subcontractors shall not deny the contract's benefits to any person on the basis of religion, color, ethnic group identification, sex, age, physical or mental disability, nor shall they discriminate unlawfully against any employee or applicant for employment because of race, religion, color, national origin, ancestry, physical handicap, mental disability, medical condition, marital status, age or sex. Contractor shall insure that the evaluation and treatment of employees and applicants for employment are free of such discrimination.
2. Contractor shall comply with the provisions of the Fair Employment and Housing Act (Government Code, Section 12900 et seq.), the regulations promulgated thereunder (California Administrative Code, Title 2, Section 7285.0 et seq.), the provisions of Article 9.5, Chapter 1, Part 1, Division 3, Title 2 of the Government Code (Government Code, Sections 11135-11139.5) and the regulations or standards adopted by the awarding State agency to implement such article.
3. Recipient, contractor and its subcontractors shall give written notice of their obligations under this clause to labor organizations with which they have a collective bargaining or other agreement.
4. Contractor shall include the nondiscrimination and compliance provisions of this clause in all subcontracts to perform work under the contract.